VIDEOJET 10

User Guide

VCS
Video Communication Systems AG

Copyright

This user guide is the intellectual property of VCS and is protected by copyright. All rights reserved. No part of this document may be reproduced or transmitted for any purpose, by whatever means, electronic or mechanical, without the express written permission of VCS.

Release: May 2005 (Firmware version 2.1)

© 2005, VCS Video Communication Systems AG

Note

This user guide has been compiled with great care and the information it contains has been thoroughly verified. The text was complete and correct at the time of printing. Due to further product development, the contents of the user guide may change without prior notice. VCS accepts no liability for damages resulting directly or indirectly from errors, omissions or discrepancies between the user guide and the product described.

Trademarks

All hardware and software product names used in this document are likely to be registered trade marks and must be treated accordingly.

Contents

Chapter 1 Preface
About this user guide 7
Conventions 7
Intended use 8
EU guidelines 8
Rating plate 8

Chapter 2 Safety Information
Electrical shock hazard 9
Installation and operation 10
Maintenance and repair 10

Chapter 3 Product Description
Supplied components 11
System requirements for setup 11
Configuration requirements 11
Operational requirements 12
Overview of functions 13
VideoJet 10 front panel connections 16
VideoJet 10 back panel connections 17

Chapter 4 Installation
Installing the unit 19
Connections 20
Switching on/off 23
Setup using terminal software 24

Chapter 5 Configuration using a Web Browser
Establishing the connection 27
Switching to the configuration mode 30
Configuration in Expert Mode 31
Configuration with the Wizard 33

Chapter 6 Configuring the Sender
Basics 35
Unit identification 35

Password 36
Language 37
Date and time 37
Time server 38
Camera name 39
Display stamping 39
Picture settings 40
MPEG-4 encoder 41
Audio stream 45
Video input 45
JPEG posting 46
Partitioning 48
Recording scheduler 52
Alarm sources 58
Alarm connections 59
Motion detector 61
Relay 64
COM1 66
COM2 68
Network 69
WLAN 71
Multicasting 75
Version information 77
Livepage configuration 78
Firmware and configuration upload 81
Function test 83

Chapter 7 Configuring the Receiver

Basics 85
Unit identification 85
Password 86
Language 87
Date and time 87
Time server 88
MPEG decoder 89
Audio stream 90
Alarm sources 91
Alarm connections 92
Relay 93
COM1 95
COM2 97

Network 98
WLAN 100
Version information 103
Firmware and configuration upload 104
Function test 106

Chapter 8 Sender Operation
Operation with Microsoft Internet Explorer 107
The Livepage 109
Saving snapshots 113
Recording video sequences 114
Recordings in progress 115
Media-Replay page 116
Backup 118

Chapter 9 Receiver Operation
Operation with Microsoft Internet Explorer 121
The Decoder connection page 122
Connection between the receiver and sender 123

Chapter10 Hardware Connections
Hardware connections between VCS units 125
Establishing the connection 125
Closing the connection 127

Chapter11 Operation with Decoder Software
Operation with VIDOS 129

Chapter12 Maintenance and Upgrades
Testing the network connection 131
Device reset 131
Repairs 132
Transfer and disposal 132

Chapter13 Appendix
Troubleshooting 133
LEDs 135
COM1: RS232/485 interface 136
COM2: RS232 interface 137
Audio stereo jack 137
Connection jacks 138

Glossary 139
VideoJet 10 Specifications 141

Chapter14 Index

Preface 1

About this user guide

This user guide is intended for persons responsible for the installation and operation of the VideoJet 10 network video server. International, national and any regional regulations regarding electrical systems must be adhered to at all times. Adequate knowledge of network technology is a precondition. The user manual describes the installation and operation of the unit.

Conventions

Symbols and notation

The following symbols and notation highlight important situations and information.

Warning!
This symbol indicates that failure to follow the safety instructions described may endanger persons and cause damage to the unit or other equipment. It is associated with immediate, direct hazards.

Note
This symbol indicates tips and information for easier, more convenient use of the unit.

Intended use

The VideoJet 10 network video server transmits video, audio and control signals over data networks (such as Ethernet LANs and the Internet). It is designed for use in CCTV systems. By incorporating external alarm devices, various functions can be triggered automatically. Other applications are not authorized.

For questions regarding the use of the unit that are not answered in this user guide, please contact your local dealer or:

VCS Video Communication Systems AG
Forchheimer Strasse 4
90425 Nuremberg, Germany
Phone: +49 (0)911 9 34 56-0
Fax: +49 (0)911 9 34 56-66

info@vcs.com

EU guidelines

The VideoJet 10 network video server complies with the specifications of EU Directives 89/336 (Electromagnetic Compatibility) and 73/23, amended by 93/68 (Low Voltage Directive).

Rating plate

For exact identification of the unit, the model and serial number are inscribed on the rating plate on the bottom of the housing. Please note this information before starting installation, so that you have it ready if you need to ask for assistance or order spare parts.

Safety Information 2

Electrical shock hazard

- Never attempt to connect the unit to any power network other than the type for which it was intended.
- Use only the power supply provided.
- Never open the casing!
- If a fault occurs, disconnect the power supply unit from the mains supply and from all other devices.
- Install the unit and power supply only in dry, weather-protected areas.
- If safe operation of the unit cannot be guaranteed, remove it from service and secure it to prevent unauthorized start-up. Safe operation can no longer be guaranteed, for example,
  - if there is visible damage to the unit or power cables,
  - if the unit no longer works properly,
  - if the unit has been exposed to rain or moisture,
  - if foreign matter has infiltrated the unit,
  - after long storage under adverse conditions or
  - after exposure to higher than normal stress during transport.

  In such cases, have the unit checked by VCS.

Installation and operation

- Relevant electrical codes and guidelines must be complied with at all times during installation.
- Adequate knowledge of network technology is necessary for the installation.
- Before installing or operating the unit, make sure you have read and understood the documentation for the other equipment connected to the system, such as cameras. There you will find important safety instructions and information about authorised use.
- Perform only the installation tasks and operating steps described in this manual. Additional actions may lead to personal injuries, property damage or damage to the equipment.

Maintenance and repair

- Never open the casing of the VideoJet 10. The unit does not contain parts that you can repair or replace.
- Never open the housing of the power supply unit. The power supply unit does not contain parts that you can repair or replace.
- Ensure that all maintenance or repair work is performed exclusively by personnel qualified in electro-technics and network technology.

3 Product Description

Supplied components

- Network video server VideoJet 10 including plug-in mains adapter
- Configuration cable
- The quick start guide “First Steps” in English and German
- Product CD with the following content:
  – The quick start guide “First Steps” in English and German
  – User guide in English and German
  – System Requirements
  – MPEG-ActiveX control
  – MPEG-Viewer
  – DirectX control
  – Microsoft Internet Explorer
  – Microsoft Virtual Machine
  – Adobe Acrobat Reader

System requirements for setup

- Computer with Microsoft Windows 98/2000/XP operating system
  and
  – network access and Microsoft Internet Explorer (version 6.0 or higher)
  or
  – a free serial port and terminal software

Configuration requirements

- Computer with Microsoft Windows 98/2000/XP operating system and network access and
  – Microsoft Internet Explorer (version 6.0 or later)
  or
  – decoder software, such as VIDOS from VCS

Note

Read the indications given in the document **System Requirements** on the CD provided (see page 11).

Make sure the graphic card is set to 16 or 32 bit color depth and Microsoft's Virtual Machine is installed and active on your computer.

Operational requirements

- Computer with Microsoft Windows 98/2000/XP operating system and network access and
  – Microsoft Internet Explorer (version 6.0 or later)
  or
  – decoder software, such as VIDOS from VCS

or

- Hardware receiver from VCS (e.g. VideoJet 10 E) and video monitor

Note

Read the indications given in the document **System Requirements** on the CD provided (see page 11).

Make sure the graphic card for receiving on the computer monitor is set to 16 or 32 bit color depth and Microsoft's Virtual Machine is installed and active on the computer.

Overview of functions

Network video server

The VideoJet 10 is a network video server. Its primary function is to encode and decode video, audio and control data for transmission over an IP network. The use of existing networks means that integration with CCTV systems or local networks is quick and easy.

Via the CompactFlash interface the device can be integrated seamlessly into any wireless LAN using a corresponding card.

Two units, a VideoJet 10 as the sender and another VideoJet 10 as the receiver, can form a stand-alone system for data transfer without a PC. Video images from one sender can be received simultaneously on a number of receivers.

Receiver

VIP or VideoJet units from VCS can be used as receivers. Computers with decoding software such as VIDOS from VCS or Microsoft Internet Explorer can also be used as receivers.

Video encoding

The VideoJet 10 works with the MPEG-4 video compression standard. MPEG-4 enables data transfer at narrow bandwidth – via Internet for example.

Dual streaming

Dual streaming allows the incoming data stream to be encoded simultaneously according to two different, individually customizable profiles. This creates two data streams that can serve different purposes, for example one for local recording and one optimized for transmission via the LAN.

Multicast

In suitably configured networks, the multicast function enables simultaneous, real time video transmission to multiple receivers. The prerequisite for this is that the UDP and IGMP V2 protocols be implemented on the network.

Local recording and playback

You can use the CompactFlash interface to store recordings locally on a CompactFlash-card or a MicroDrive. The video sequences stored can be accessed and viewed via the Media-Replay page.

The VideoJet 10 supports ANR technology, which ensures seamless continuous storage with VIDOS-NVR, the network video recorder from VCS, even when the network fails.

Remote control

The VideoJet 10 can remotely control external devices, such as pan and tilt heads or motorized zoom lenses, by transmitting control data via its bidirectional serial interface. This interface can also be used to transmit transparent data.

Configuration

The VideoJet 10 can be configured using a browser on the local network (Intranet) or via Internet.

Firmware updates and fast loading of device configurations are possible in the same way.

Snapshots

Individual video frames (snapshots) can be called up as JPEG images by the VideoJet 10, stored on the hard drive or displayed in a separate browser window.

Backup

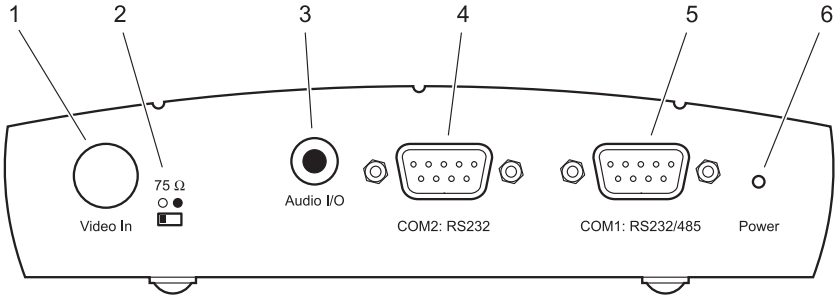
Both the live page and the Media-Replay page (optional when using a local storage medium) include an icon for saving the video images displayed as a file on your computer's hard disk. Clicking this icon stores the video sequences and they can be replayed with the MPEG-Viewer from VCS included with the package.

Summary

The main functions of the VideoJet 10 are:

- Video, audio and data transmission over IP data networks
- Simultaneous dual streaming with two independently defined profiles
- Multicast function for simultaneous picture transmission to multiple receivers
- Analog BNC composite video input FBAS (PAL/NTSC) (sender)
- Analog BNC composite video output FBAS (PAL/NTSC) (receiver)
- A bidirectional audio input/output (mono)
- Video and audio encoding using the MPEG-4/G.711 international standards
- Integrated Ethernet interface (10/100 Base-T)
- CompactFlash interface for use of a storage medium or a wireless LAN card
- Two serial interfaces, type RS232/422/485 resp. RS232
- Remote control of all built-in functions via TCP/IP
- Password protection to prevent unauthorized connection or configuration changes
- Alarm input for an external sensor (such as a door contact)
- Relay output for switching external devices (such as lights or audible alarms)
- Event-driven, automatic connection (for example when switching on and when alarms are activated)
- Fast, convenient configuration using a Web browser
- Firmware update using flash memory
- Convenient upload of configuration data

VideoJet 10 front panel connections



1 BNC jack: **Video In** (sender) or **Video Out** (receiver),
for connecting a video source or an analog video monitor

2 Slide switch **75** Ω (sender)
for termination of the video input

3 Bidirectional audio interface **Audio I/O**
3.5 mm stereo jack for connection of a loudspeaker
or an audio source (mono line)

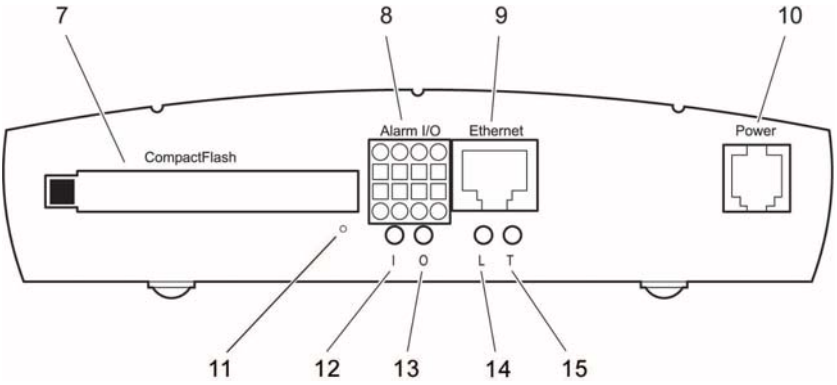
4 Serial interface port **COM2: RS232**
9-pin sub-D socket (m) for control data transmissions (standard RS232) and for configuration using terminal software

5 Serial interface port **COM1: RS232/485**
9-pin sub-D socket (m) for control data transmissions (standards RS232, RS422 and RS485) and for configuration using terminal software

6 LED **Power**
flashes yellow when ready

Note
You can find further information on the LEDs on page 135.

VideoJet 10 back panel connections



7 **CompactFlash** interface
drive for CompactFlash cards and MicroDrives or
for wireless network connection using a wireless LAN card

8 Screw clamp **ALARM I/O**
for connection of alarm sensors or switches and for switching of external devices (e.g. lamps)

9 RJ45 **Ethernet** connector
for connecting to the network

10 Socket **Power**
mains cable connector

11 Reset button for return to the default settings

12 LED **I**
lights up red with active alarm

13 LED **O**
lights up green when the relay is switched

14 LED **L**
lights up green when the device is connected to the network

15 LED **T**
flashes yellow when data packages are transmitted

Note
You can find further information on the LEDs on page 135.

Installation 4

Installing the unit

Due to its compact design and small footprint, the VideoJet 10 can be used as a desk top unit occupying minimum space.

Warning!

The unit is intended for use indoors or in a protective enclosure. Select a suitable location for installation where the equipment is not subject to extreme temperatures or humidity. The ambient temperature must lie between 0 and +50 °C. The relative humidity should not exceed 80%.

The unit generates heat during operation. Ensure that there is adequate ventilation and also that there is enough clearance between the unit and heat-sensitive objects or equipment.

Make sure the following conditions for installation are complied with:

- Do not mount the unit close to heaters or other heat sources. Avoid locations subject to direct sunlight.
- Allow sufficient space for running cables.
- Ensure that the unit has adequate ventilation.
- Use only the cables supplied for connections or appropriate cables, which are also shielded against electromagnetic interference.
- Position and run all cables so that they are protected from damage, and provide strain relief where needed.

Connections

Camera/monitor

Depending on the device used, you can connect a video source (sender) or a monitor (receiver). All cameras and video sources that generate a standard PAL or NTSC signal and all monitors compatible with PAL or NTSC standards can be used for this purpose

– Connect the camera or another video source using a video cable (75 Ohms, BNC plug) to the **Video In** BNC jack of the sender.

– Set the slide switch **75** Ω on the front of the sender to ● to terminate the video input when the video signal is not lopped through.

or

– Connect the video monitor using a video cable (75 Ohms, BNC plug) to the **Video Out** BNC jack of the receiver.

Data interfaces

The bidirectional data interfaces are used to control equipment connected to the VideoJet 10 unit, such as a dome camera with a motorized lens.

The **COM1: RS232/485** connection supports RS232, RS422 and RS485 communication standards, the **COM2: RS232** supports only RS232.

The serial interfaces are Sub-D sockets. For information on the pin assignment see page 136.

The selection of controllable devices is growing constantly. The manufacturers of this equipment can provide specific information on installation and control.

Warning!
Make use of the device documentation when installing and operating a device that you want to control using the system. It contains important safety instructions and information about authorized use.

Note
A video connection is necessary to transmit transparent data.

Network

You can connect the VideoJet 10 to a 10/100 Base-T network. Use a standard UTP Category 5 cable with RJ45 connectors for this.

– Connect the unit to the network using the **Ethernet** jack.

As an alternative the VideoJet 10 can be integrated into a wireless LAN via the Compact Flash interface. Use an adequate wireless LAN card.

– Insert the wireless LAN card into the Compact Flash slot.

Alarm input

The VideoJet 10 has one alarm input on the orange terminal block. The alarm input is used to transfer signals from external alarm devices, such as door contacts or sensors. Given the appropriate configuration, an alarm device can, for example, trigger automatic connection between the VideoJet 10 and a remote location. A voltage free normally open contact or switch can be used as an actuator.

Note
It is preferable to use an actuator with a bounce-free contact system.

– Connect the leads to the appropriate terminals on the orange terminal block and check that the connection is secure (for pin assignment see page 138).

Relay output

The VideoJet 10 has a relay output for switching external devices, such as lights or audible alarms. This relay output can be activated manually if there is an active connection with the VideoJet 10. Moreover, the output can be configured to activate audible alarms or other devices as a response to an alarm signal. The relay output is also located on the orange terminal block.

Warning!
The maximum rating of the relay contact is 30 V and 1 A.

– Connect the leads to the appropriate terminals on the orange terminal block and check that the connection is secure (for pin assignment see page 138).

Microphone/loudspeaker

The VideoJet 10 provides an audio channel via the jack **Audio I/O**.

The bidirectional audio signals are transmitted simultaneously with the video signals. This can be used for example to operate a loudspeaker or door intercom at the target location.

– Connect a line level audio source to the jack **Audio I/O** ring.

– Connect a loudspeaker to the jack **Audio I/O** tip (for assignment see page 137).

Switching on/off

Power connection

A power supply unit is included with the VideoJet 10 package. The VideoJet 10 does not have a mains switch. The unit is ready for operation as soon as it is connected to the mains supply.

Warning!
Use only the plug-in mains adapter provided for operation of the VideoJet 10. Where necessary, take appropriate measures to ensure that the mains supply is protected against voltage surges, spikes or brownouts.

Warning!
Do not connect the VideoJet 10 to the power source until all the other connections have been made.

– Connect the mains socket into the connector **Power**.

– Plug the mains adapter into a fused power socket. The unit is ready for operation as soon as the LED **Power** stops blinking red during start-up and becomes green.

If the network connection is in order, the green LED **L** is also lit. The blinking yellow LED **T** indicates data traffic on the network.

Setup using terminal software

Data terminal

You can connect a data terminal to the VideoJet 10 for setup and local control. The data terminal consists of a computer with terminal software. Use the configuration cable included in the package supplied to make the connection.

For example, HyperTerminal, a communications utility included with Microsoft Windows, can be used as the terminal program.

☞ **Note**
Information on installing and using HyperTerminal can be found in the user guides or online help for Microsoft Windows.

– Before working with the terminal program, disconnect the VideoJet 10 from the data network.

– Connect the **COM1: RS232/485** Sub-D connector of the VideoJet 10 to an available serial port on the computer.

Configuring the terminal

To establish communication between the terminal program and the VideoJet 10, the transmission parameters must be correctly defined. Set the following values in the terminal program:

- 19,200 Bit/s
- 8 data bits
- No parity check
- 1 stop bit
- No protocol

Command entry

After the connection has been established, you must log on to the VideoJet 10. You can then access the main menu. You can call up additional submenus and functions using the on-screen commands.

- If necessary, turn off the local echo so that entered values are not repeated on the screen display.

- Enter only one command at a time.
- After entering a value (such as an IP address), re-check the entry before pressing the Enter key to send the data to the VideoJet 10.

Assigning an IP address

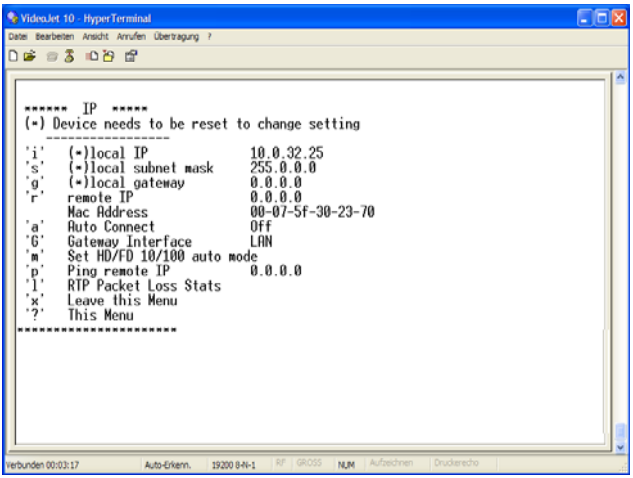
To operate the VideoJet 10 on your network, you must assign it an IP address that is recognized by the network.

The following default address has been pre-set at the factory:
Sender: **192.168.0.1**
Receiver: **192.168.0.2**

– Start up a terminal program such as HyperTerminal.

– Enter `service` as user name. The main menu will be displayed.

– Enter `i` to open the **IP** menu.


VideoJet 10 - HyperTerminal
Datei Bearbeiten Ansicht Anrufen Übertragung ?
****** IP *****
(*) Device needs to be reset to change setting
'i' (*)local IP 10.0.32.25
's' (*)local subnet mask 255.0.0.0
'g' (*)local gateway 0.0.0.0
'r' remote IP 0.0.0.0
Mac Address 00-07-5f-30-23-70
'a' Auto Connect Off
'G' Gateway Interface LAN
'm' Set HD/FD 10/100 auto mode
'p' Ping remote IP 0.0.0.0
'l' RTP Packet Loss Stats
'x' Leave this Menu
'?' This Menu
Verbunden 00:03:17
Auto-Erkenn.
19200 8-N-1

– Enter `i` once more. The current IP address will be displayed, and you will be requested to enter a new IP address.

– Enter the desired IP address and press [ENTER]. The new IP address will be displayed.

– If necessary, enter `s` and a new subnet mask.

Note

The new IP address, subnet mask and gateway adress become effective only following a restart.

Restart

Disconnect the VideoJet 10 from the power socket, wait a few seconds and reconnect the unit.

Additional parameters

Using the terminal program, you can check other basic parameters and modify them where necessary. Use the on-screen commands displayed in the various submenus for this purpose.

Configuration using a Web Browser 5

Establishing the connection

The integrated HTTP server allows the unit to be configured over the network using a Web browser. This option offers considerably more possibilities and is more convenient than configuration using terminal software. It also allows live video images to be displayed.

Note

Make sure the graphic card is set to 16 or 32 bit color depth and the Microsoft Virtual Machine is installed and active on your computer. If necessary, the required software and controls can be installed from the CD provided (see page 11).

Instructions for using the Web browser can be found in its online help.

System requirements

- Microsoft Internet Explorer (version 6.0 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (intranet or Internet)
- Optional for recording: CompactFlash card type I or II or MicroDrive

Note

Read the indications given in the document **System Requirements** on the CD provided.

MPEG-ActiveX installation

In order to display live video images, an appropriate MPEG-ActiveX must be installed on the computer. If necessary, the required software and controls can be installed from the CD provided (see page 11).

– Insert the CD into the CD-ROM drive of the computer. The CD should start automatically. If the CD does not start automatically, open the root directory of the CD in Windows Explorer and double click **MPEGAx.exe**.

– Follow the instructions on the screen.

Establishing the connection

The VideoJet 10 must be assigned a valid IP address for your network, before it can be operated in your network environment.

The following default address has been pre-set at the factory:
Sender: **192.168.0.1**
Receiver: **192.168.0.2**

– Start the Web browser.

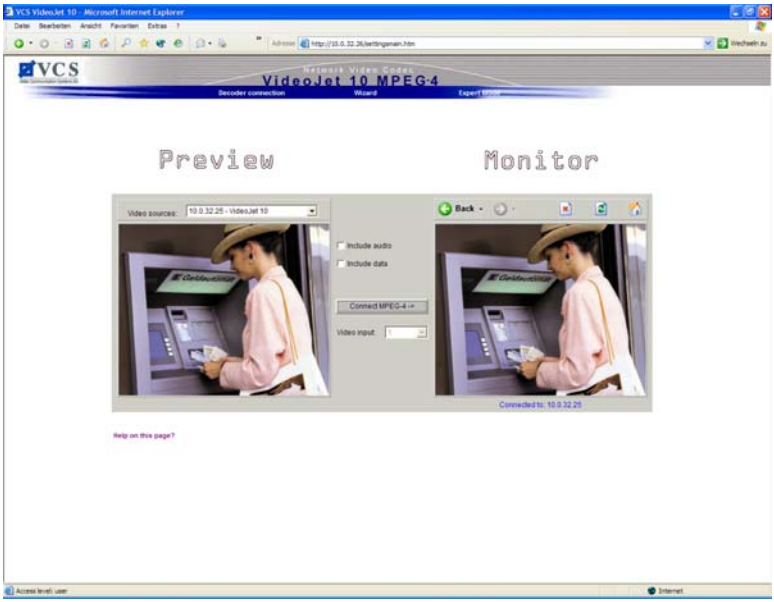
– Enter the IP address of the VideoJet 10 as the URL. The VideoJet 10 home page will be shown in the browser.

If the unit is a sender, the home page will be the Livepage (which shows the live video image).

Note

Your screen display may differ slightly from the illustration, depending on whether you are working with or without a storage medium inserted into the CompactFlash slot.

The **Decoder connection** page will be displayed as the home page for a receiver. It shows a snapshot from the video source for the sender currently connected, and the unit searches the network automatically for available senders.



Note

If the connection is not established, the maximum number of possible connections may already have been reached. The maximum number of connections depends on the unit and network configuration.

Protected VideoJet 10

If the VideoJet 10 is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear first.

Note

A VideoJet 10 provides various authorisation levels to limit the scope of a user's access (see page 36 for the sender and page 86 for the receiver).

– Enter the user name and the associated password in the appropriate fields.

– Click **OK**. If the password is correct the respective page is displayed.

Switching to the configuration mode

Depending on whether you are working with a VideoJet 10 sender or receiver there are various options to configure the unit or to check the current setup.

The sender can only be configured using the Expert Mode.

– Click on the **Settings** link in the upper section of the Livepage window. The Expert Mode page will be opened.

– Click one of the links on the left edge of the window. The corresponding submenu will be opened.

The receiver can be configured with the Expert Mode or the Wizard. The latter only gives you critical settings for proper operation and can be used for quick set-up.

– Click on one of the links in the upper section of the Decoder connection window to switch to the required configuration mode:

– Click the button with the wizard icon on the **Wizard** page. The first screen of the Installation Wizard will appear.

– Click one of the links on the left edge of the window of the **Expert Mode**. The corresponding subnemu will be opened.

All settings are stored in the VideoJet 10 memory, and they are preserved even if the power is interrupted.

Configuration in Expert Mode

Expert Mode allows all parameters of the VideoJet 10 to be configured. You can view the current settings by opening one of the configuration pages. The settings can be changed by entering new values or by selecting a predefined value in a list field.

The basic use of the configuration pages is described below. Separate descriptions of the individual configuration pages and customizable parameters for senders and receivers can be found in Chapter 6 and Chapter 7 of this user guide.

Navigation

– Switch to the Expert Mode as described above.

– Click one of the links on the left edge of the window. The corresponding submenu will be opened.

– Click one of the links in the submenu. The corresponding page will be opened.

Note

Your screen display may differ from the illustration, depending on whether you are working with a sender or a receiver. However, navigation on the configuration pages is the same for all units.

Making changes

Each configuration page shows the current settings. You can change the settings by entering new values or by selecting from predefined lists.

– Click **Set** after each change to save it.

Warning!

Save each change with the associated **Set** button. When **Set** is clicked, only the changes in the relevant field are saved. Changes in any other fields are ignored.

Configuration with the Wizard

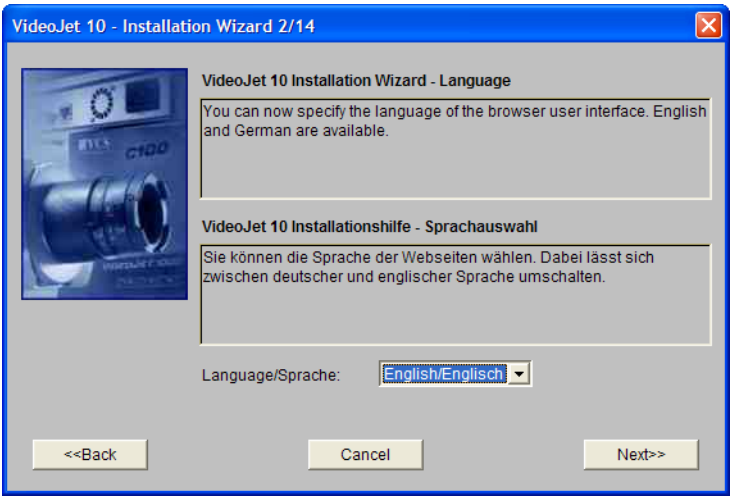
The Wizard is used for step-by-step configuration of the VideoJet 10 receiver. It will lead you through a series of screens where you can input the necessary settings thus allowing for a quick set-up. The settings only become effective after the last screen of the Wizard has been completed. When working with the Wizard, you can switch to another window at any time.

Starting the Wizard

– Just click the link **Wizard** in the top part of the receiver window. A new page will appear.

– Click the button with the wizard icon in the Installation wizard field. The first screen for the Installation Wizard will appear.

– Click **Start** to launch the Wizard. The next screen for the Wizard will appear.


VideoJet 10 - Installation Wizard 2/14
VideoJet 10 Installation Wizard - Language
You can now specify the language of the browser user interface. English and German are available.
VideoJet 10 Installationshilfe - Sprachauswahl
Sie können die Sprache der Webseiten wählen. Dabei lässt sich zwischen deutscher und englischer Sprache umschalten.
Language/Sprache:
English/Englisch
<<Back
Cancel
Next>>

General procedure

The screens for the Wizard will be shown in sequence, allowing you to work quickly and easily. The upper part of the window always contains information about the settings options. The current settings are shown in the lower part of the window. You can change settings by entering the desired value in a text field or

choosing it from a list. The navigation buttons for the Wizard are at the bottom of the window. You can switch between pages of the Wizard at any time.

– Always read the information in the upper part of the window first.
– Click in the text fields to enter values or use the other controls available, such as buttons, check boxes or list fields.
– Click **Next >>** to go to the next step.
– Click **<< Back** to look at the previous step again.
– Click **Cancel** to interrupt the process and close the Wizard.

Finishing the configuration

After you have specified all the settings you want, they must be transmitted to the VideoJet 10 receiver and saved. Click **Finish** in the last screen of the Installation Wizard to complete this process.

Warning!
All settings changes will become effective only after you have ended the configuration by clicking **Finish** in the last screen.

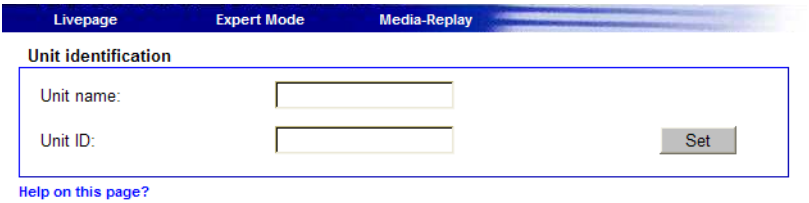
– Go to the last screen of the Installation Wizard if necessary.
– Click **Finish** to finalize the configuration. All settings will be transmitted to the VideoJet 10 receiver and become effective forthwith.

Configuring the Sender 6

Basics

Below configuration of the VideoJet 10 in Expert Mode with a Web browser is described. Basic information about configuration with a Web browser are described in Chapter 5 of this user guide.

Unit identification



The unit can be assigned a name and an ID to facilitate identification. Both make the task of managing several units in larger video surveillance systems with VIDOS from VCS or other tools much simpler.

Unit name:

Enter a name for the unit here.

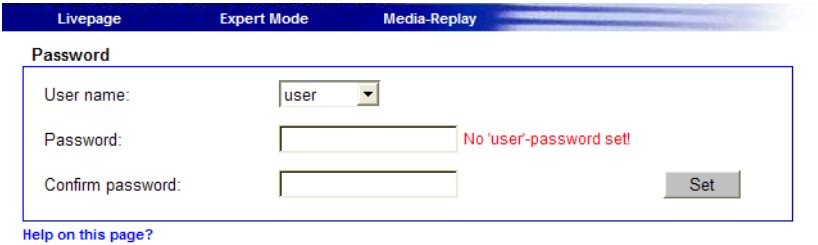
Note

The unit name is only used to identify a device remotely, for example in case of an alarm call or when using a DNS server for easier device calling. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

Each VideoJet 10 should be assigned a unique identifier that can be entered here as an additional means of identification.

Password



A VideoJet 10 unit is generally protected by password to prevent unauthorized access. You can limit the scale of access by choosing between different authorization levels (**User name:**).

Note

Correct password protection is only granted when all higher levels of authorization are also protected by password. If a **live** password is assigned, for example, also a **service** and a **user** password must be assigned. Therefore assign passwords always beginning with the highest authorization level.

User name:

The sender operates with three user names: **service**, **user** and **live** which refer to different authorization levels.

The user name **service** refers to the highest authorization level. Logged in under **service**, you can use all the functions offered by the VideoJet 10 and change all settings.

The user name **user** refers to the medium authorization level. Logged in under **user**, you can operate the device and other devices, such as a camera, but no changes can be made to the configuration.

The user name **live** refers to the lowest authorization level. Logged in under **live**, you can only view the live video image and switch between the various live image feeds.

Password:

You can define and change a unique password for each user name if you are logged on under **service** or if the unit is not protected by a password.

Enter a password for the chosen user name here.

Confirm password:

Re-enter the new password to prevent typing mistakes.

Note

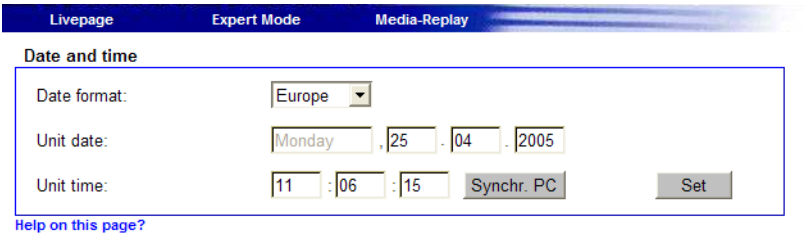
The new password becomes effective only after you have clicked **Set**. Therefore always click **Set** immediately after having entered and confirmed the password even if afterwards you want to assign a password to another user name, too.

Language

Website language:

Select the language for the website from the dropdown field.

Date and time



If a number of units are part of a system, it is important that the internal clocks of these separate units be synchronized. Only if all units operate with the same time it is possible, for example, to correctly identify and evaluate recordings that have been made simultaneously.

Date format:

Choose the desired date format here
(**Europe**: DD.MM.YYYY; **USA**: MM.DD.YYYY; **Japan**: YYYY/MM/DD).

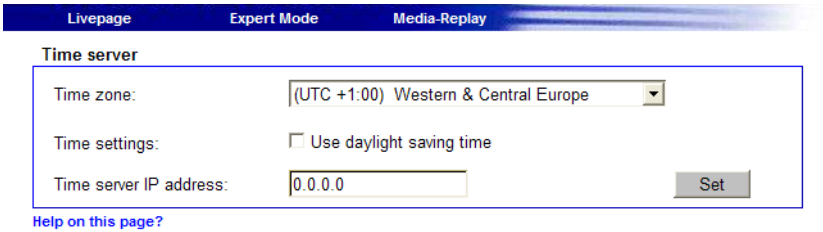
Unit date:

Enter the current date here. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of week. This is added automatically.

Unit time:

Enter the current time here or click the **Synchr. PC** button to copy the system time of your computer to the VideoJet 10.

Time server



Using a Time Server Protocol the VideoJet 10 can receive a time signal from a time server and use it to set its internal clock. The device calls up the time signal automatically every ten minutes.

Time zone:

Select the time zone that applies to your system.

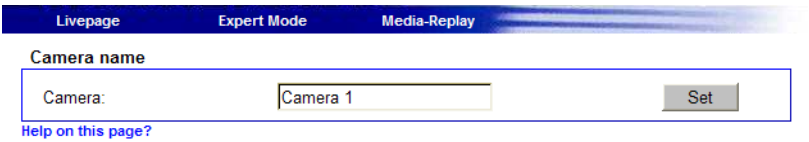
Time settings:

Select this during daylight savings time if the time change is to be taken into account. Deselect it when standard time has resumed.

Time server IP address:

Enter the IP address of the chosen time server here.

Camera name

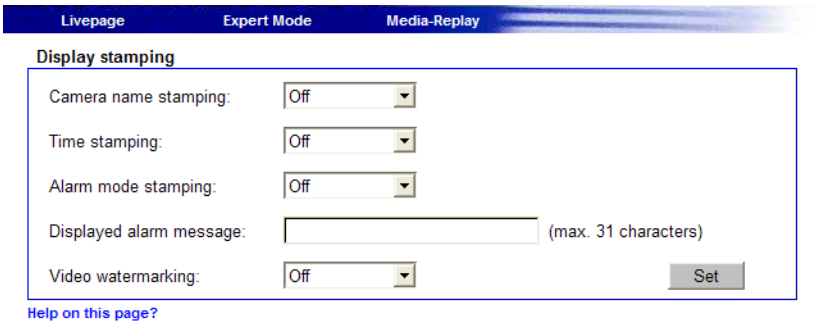


The camera name simplifies identification of the remote camera location, for example in the event of an alarm call. It will be shown in the video image if this facility has been configured (see page 39). Moreover, the camera name is used by VIDOS, VCS software for managing video surveillance systems, and makes it easier to identify the camera.

Camera:

Enter a unique, unambiguous name for the camera in this field.

Display stamping



Various overlays or stamps in the video image provide important supplemental information. These overlays can be enabled individually and arranged on the image in a clear manner.

Camera name stamping:

This field sets the position of the camera name overlay. It can be shown at the **Top** or the **Bottom** or you can define a position yourself via the Hyperterminal and activate it choosing the option **Custom**. Or it can be set to **Off** if no overlay for this information is to be shown.

Time stamping:

This field sets the position of the time and date overlay. It can be shown at the **Top** or the **Bottom** or you can define a position yourself via the Hyperterminal and activate it choosing the option **Custom**. Or it can be set to **Off** if no overlay for this information is to be shown.

Alarm mode stamping:

Choose **On** if a text message should be overlaid in the event of an alarm.

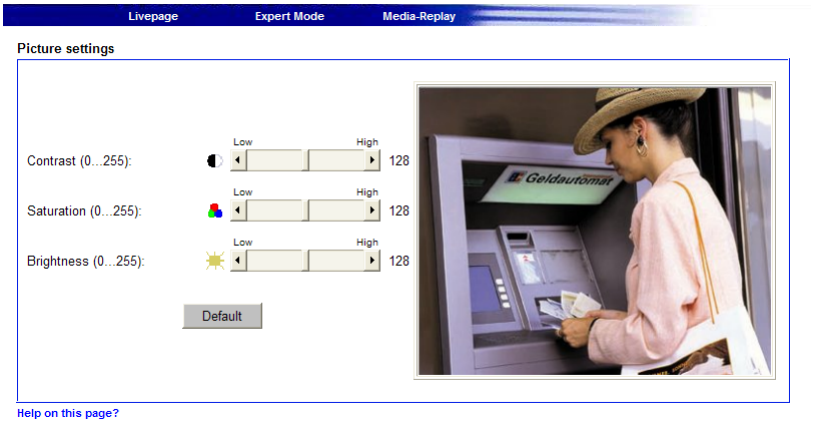
Displayed alarm message:

Enter the message to be displayed for an alarm. The field can contain up to 31 characters.

Video watermarking:

Choose **On** if the video images transmitted are to be "watermarked". After activation, all images will be marked with a small green rectangle. A red rectangle indicates that the sequence (live or saved) has been manipulated.

Picture settings



You can set up the video picture to meet your own particular requirements. To enable you to control the current video picture it is shown in a small window beside the sliders. The changes are effective immediately.

– If necessary click the **Default** button to return the configuration back to the standard settings.

Contrast (0...255):

You can use this function to adjust the contrast of the video picture to suit the working environment.

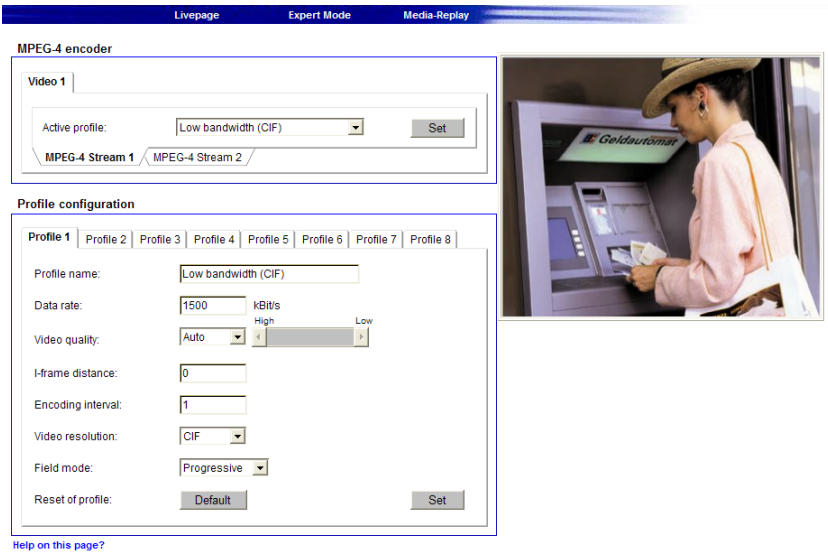
Saturation (0...255):

You can use this function to set the color saturation and achieve the most realistic color reproduction on the monitor.

Brightness (0...255):

You can use this function to adjust the brightness of the video picture to suit the working environment.

MPEG-4 encoder



You can configure the data transmission parameters for the MPEG-4 encoder to suit the operating environment (for example the network structure, bandwidth, data structures etc.). For that the VideoJet 10 simultaneously generates two data

streams (Dual Streaming) which compressions parameters you can choose individually, e.g. for transmission via Internet on the one hand and connections within a LAN on the other.

Note
You must set the parameters for each stream individually.

Eight pre-programmed profiles are available optimized for different transmission modes:

- Profile 1: **Low bandwith (CIF)**
  for connections with low bandwidth, resolution 352 × 288/240 pixels
- Profile 2: **Low delay (1/2 D1)**
  for connections with low delay, resolution Custom (typical setting: 1/2 D1 with 352 × 576/480 pixels)
- Profile 3: **High resolution (D1/4CIF)**
  for connections with high resolution, resolution 704 × 576/480 pixels
- Profile 4: **DSL**
  for DSL connections with 500 kBit/s, resolution 352 × 288/240 pixels
- Profile 5: **ISDN (2B)**
  for ISDN connections via two B channels, resolution 352 × 288/240 pixels
- Profile 6: **ISDN (1B)**
  for ISDN connections via one B channel, resolution 352 × 288/240 pixels
- Profile 7: **Modem**
  for analog modem connections at 20 kBit/s, resolution 176 × 144/120 pixels
- Profile 8: **GSM**
  for 9600 baud GSM connections, resolution 176 × 144/120 pixels

Active profile:

Profiles can be selected here for each of the two streams.

– Click on a tab to switch to the associated stream.

– Choose one of the profiles out of the dropdown list.

Profile configuration:

Individual settings in a profile and its name can be changed. You can switch between the profiles by clicking the associated tabs.

Warning!
The profiles are rather complex. They include a number of parameters that interact with one another. Therefore it is generally best to use the profiles as provided. The profiles should only be changed after you have familiarized yourself with all the configuration options.

Note
The parameters as a group constitute a profile and are dependent on one another. If you enter a setting outside the allowed range for the parameter, the nearest valid value will be substituted when the settings are saved.

Profile name:

Enter a name for the current profile. The name will be displayed automatically in the dropdown list of the field **Active profile**.

Data rate:

To optimize the use of bandwidth in the network you can restrict the data rate of the VideoJet 10. The data rate should be chosen dependent on the picture quality required.

Video quality:

Here you can adjust video quality as a function of the level of movement within the frame. The **Auto** option automatically adjusts to the optimum relationship between movement and image definition (focus). **Manual** allows you to set a value between 1 and 31 on a slide bar. The value **1** gives the highest quality with a low frame refresh rate. The value **31** results in a high refresh rate and low image quality.

I-frame distance:

This parameter determines the number of inter-coded frames between two I-frames.

Encoding interval:

This setting determines the frame encoding interval. With the value **4** e.g. only every fourth image is encoded, the following three images are skipped, which is an advantage especially with low bandwidth.

Video resolution:

Select the desired resolution for the MPEG-4 video image. The following options are available:

- **QCIF** 176 × 144/120 pixels
- **CIF** 352 × 288/240 pixels
- **2CIF** 704 × 288/240 pixels
- **D1/4CIF** 704 × 576/480 pixels
- **Custom** 704 × 448 pixels, adjustable via terminal software (see page 24)

Field mode:

This parameter determines the video signals being **Interlaced** or **Progressive**.

Reset of profile:

Click the **Default** button to reset the profile to its factory presets.

Audio stream

In addition to video data, the unit can also send and receive audio signals. The transmission of audio takes place at the same time as that of the video data in a separate data stream. Thus it increases the data traffic. The audio data is coded according to G.711 compression standard and requires an additional bandwidth of about 80 kBit/s per direction.

Warning!
G.711 audio data is only saved with central recording, using VIDOS-NVR for example.

Enable audio:

To transmit a separate G.711 audio stream choose **On**.

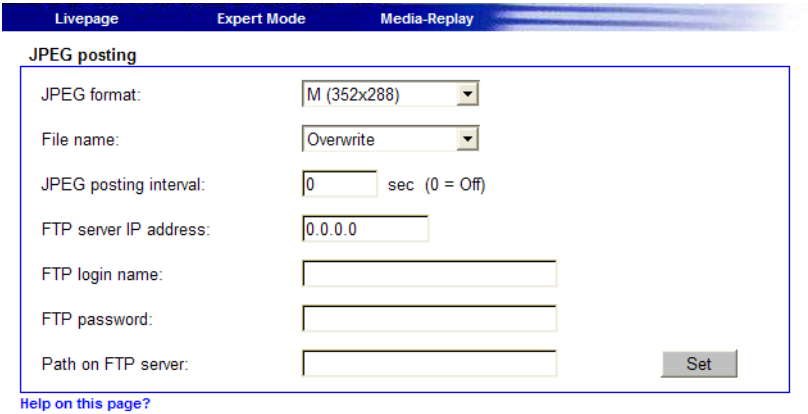
Video input

The VideoJet 10 can alleviate a possible noise in the video signal using various input filters. This lowers the data rate and is an advantage especially with low bandwidth. However, picture sharpness is affected when a filter is used. The filter should be chosen dependent on the picture quality required.

Video input filter:

Choose **None** to use no filter for the video input. Choose **Low**, **Medium** or **High** to set a corresponding filter.

JPEG posting



You can store video images in JPEG format at certain intervals on an FTP server. These images can be called up again later, thus enabling for example alarm events to be reconstructed.

JPEG format:

Here you can choose the format of the JPEG pictures:

- **S** 176 × 144 pixel (QCIF)
- **M** 352 × 288 pixel (CIF)
- **XL** 704 × 576 pixel (4CIF)

File name:

You can set what file names are to be generated for the transmitted snapshots.

- **Overwrite**: The same file name is always used. The existing file is continuously over-written with current data.
- **Increment**: A number from 000 to 255 is attached to the filename. This automatically increases by 1 every time a new file is created. When 255 is reached the numbers begin again at 000.
- **Date/time suffix**: A date and time code are automatically incorporated into the file name. When choosing this setting take care that the device's date and time are set correctly. Example: the file snap010505_114530.jpg was saved on May 1st, 2005, at 11.45 and 30 seconds.

JPEG posting interval:

Enter the time interval here at which the single images are to be sent to an FTP server. Enter zero, if no single images are to be sent.

FTP server IP address:

Enter here the IP address of the FTP server on which the JPEG-images are to be stored.

FTP login name:

Enter your login name for the FTP server here.

FTP password:

Enter the password for the access to the FTP server here.

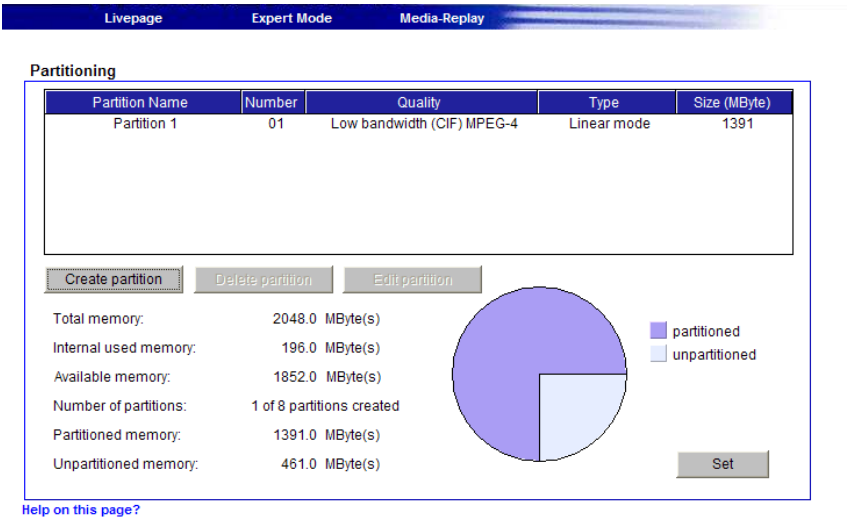
Path on FTP server:

Enter the exact path here under which the images are to be stored on the FTP server.

Partitioning

Note

The **Recording settings** menu and the **Partitioning** option are only available if you have inserted a storage medium into the CompactFlash slot of the VideoJet 10.



For the storage medium of the VideoJet 10, up to eight partitions can be set up similar to the partitioning that can frequently be found on computer hard disks. Parameters can be defined individually for each partition, such as size, quality, type of video recording and the compression standard used. Changes in these parameters result in a complete reorganization, causing saved data on the partition to be deleted.

All partitions are listed in the table on the **Partitioning** page with their partition name, number, quality, type and size.

In addition, the page provides you with an overview of the storage medium data, namely the total memory (showing the amount of memory used internal and memory available for savings), the number of partitions created, partitioned and unpartitioned memory. A pie chart shows how much memory space is partitioned for recordings.

Create partition

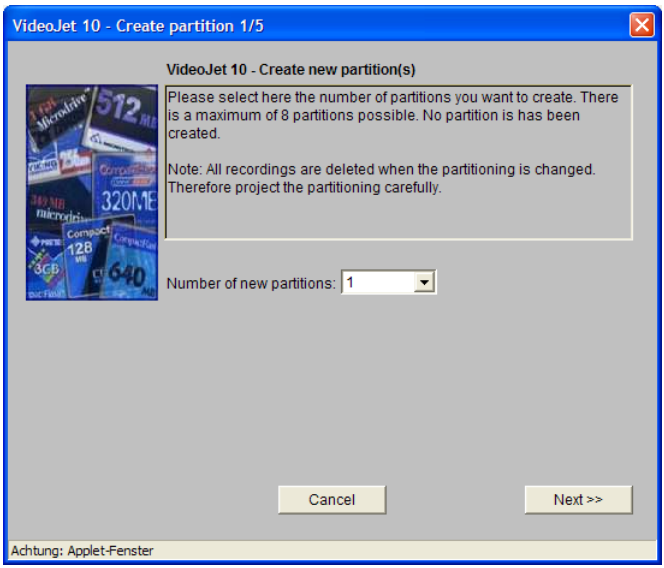
Warning!
Changes to the size or number of partitions will result in reorganization of the entire storage medium and the loss of all saved data. Therefore, before making changes to the parameters mentioned, check the recordings and back up the important sequences to your computer's hard drive.

Note
If the maximum eight partitions are already set up, you can only create a new partition after deleting at least one partition (see page 51).

A new partition is created in separate Wizard windows, which provide you with information and guide you step by step through the necessary settings.

This Wizard must be completed once for each partition set up on the storage medium. After starting the Wizard, you can choose the total number of partitions to be created. The Wizard will then restart automatically until all the partitions have been configured.

– Click **Create partition** to start the Partition Wizard. The first screen of the Wizard will appear.


VideoJet 10 - Create partition 1/5
VideoJet 10 - Create new partition(s)
Please select here the number of partitions you want to create. There is a maximum of 8 partitions possible. No partition is has been created.
Note: All recordings are deleted when the partitioning is changed. Therefore project the partitioning carefully.
Number of new partitions: 1
Cancel
Next >>
Achtung: Applet-Fenster

– Always read the information in the upper part of the window first.

– Click in the text fields to enter values or use the other controls available, such as buttons, check boxes or list fields.
– Click **Next >>** to continue to the next step.
– Click **<< Back** to look at the previous step again.
– Click **Cancel** to interrupt the process and close the Wizard.

Making changes

Once you have specified all the settings you want, they must be transferred to the VideoJet 10 and saved. Click **Finish** on the last screen of the Wizard to complete this process.

Warning!
All changes to the settings will only take effect after you have ended the configuration by clicking **Finish** in the last screen.

– Go to the last screen of the Wizard if necessary.
– Click **Finish** to finalize the configuration. All settings will be transferred to the VideoJet 10 and are then effective.

Editing a partition

The configuration of a partition can be changed at any time.

Warning!
Making changes to a partition causes the affected partition to be reorganized and all sequences stored on it to be lost.

Changes to the size (total space in partition) will result in reorganization of the entire storage medium and the loss of all saved data.

You should therefore back up all important sequences to the computer's hard drive before making changes to the partition.

The desired changes can be made in the **Edit partition** window.

– Click to select the partition in the list that you want to change.
– Click **Edit partition**. A new window is opened containing information about the selected partition.

– Make the desired changes.

– Click **Set** to send the changes to the VideoJet 10 and save them there.

Deleting partitions

A partition can be deleted at any time.

Warning!
Deleting a partition causes the entire storage medium to be reorganized and all sequences stored on it to be lost. Therefore, before deleting partitions, check the recordings and back up the important sequences to your computer's hard drive.

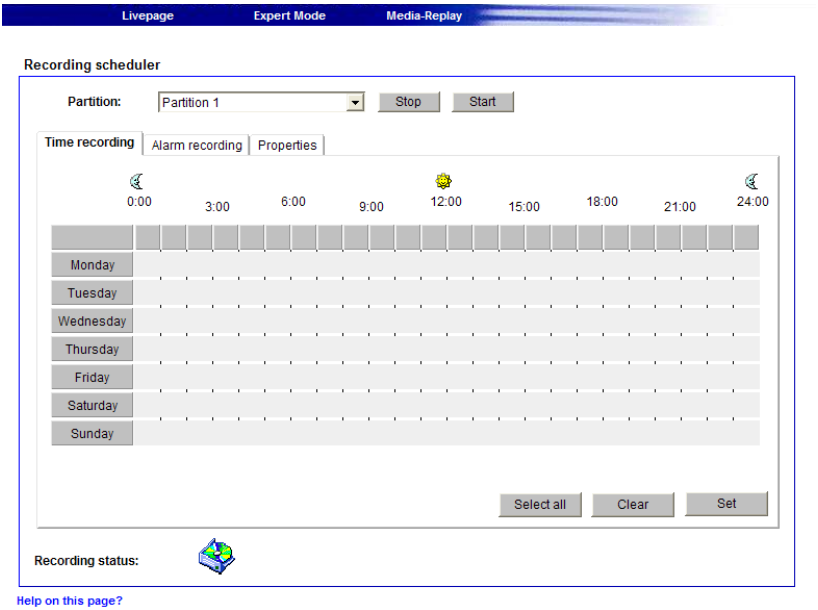
– Click a partition in the list to select it.

– Click **Delete partition** to delete the selected partition.

Recording scheduler

Note

The **Recording settings** menu and the **Recording scheduler** option are only available if you have inserted a storage medium into the CompactFlash slot of the VideoJet 10.



Here you set the parameters for recording to the local storage medium. Recording may be done continuously or only in the event of an alarm.

Partition:

Select the partition on which you want to record.

Activating a partition for recording

After configuring a partition, it can be activated for recording by clicking the **Start** button.

Note

Only one partition at a time can be activated for recording.

Once started, the Time recording and Alarm recording pages and the settings for the active partition are shown in grey and the configuration cannot be changed.

The icon at the bottom of the pages indicates recording activity on this partition. The icon is animated while recording is in progress.

Recording activity can be stopped at any time, and the partition can be deactivated.

– Click **Start** to activate the currently selected partition for recording.

– Click **Stop** to deactivate the currently selected partition for recording. Recordings in progress are interrupted and the configuration can be changed.

Note
While a partition is active you cannot change the configuration for any partition neither using the Partitioning page nor the page Recording scheduler.

Time recording

Here you can specify the times during which continuous recording to the storage medium will take place.

For each partition, there are separate selection fields for each day of the week. You can select 16 individual recording periods for each day of the week.

Note
If a period has already been selected for alarm recording, you cannot select this period for the time recording (see **Alarm recording**, page 54).

– Left-click on the point in the schedule at which recording should start and hold down the mouse button.

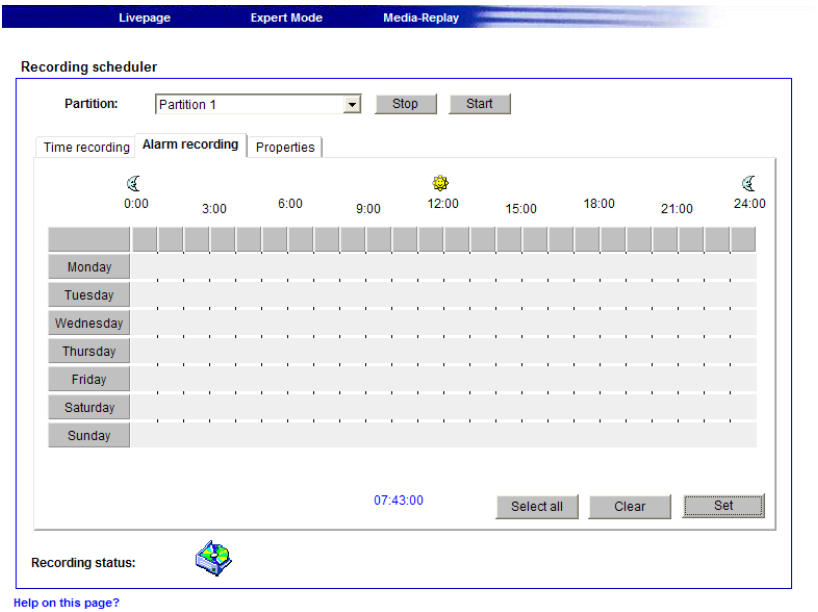
– Now drag the selected field to the desired end time for the recording and release the mouse button.

– Right-click a selected time segment to delete it.

– Click **Select all** to select all time segments.

– Click **Delete all** to delete all selected periods.

Alarm recording



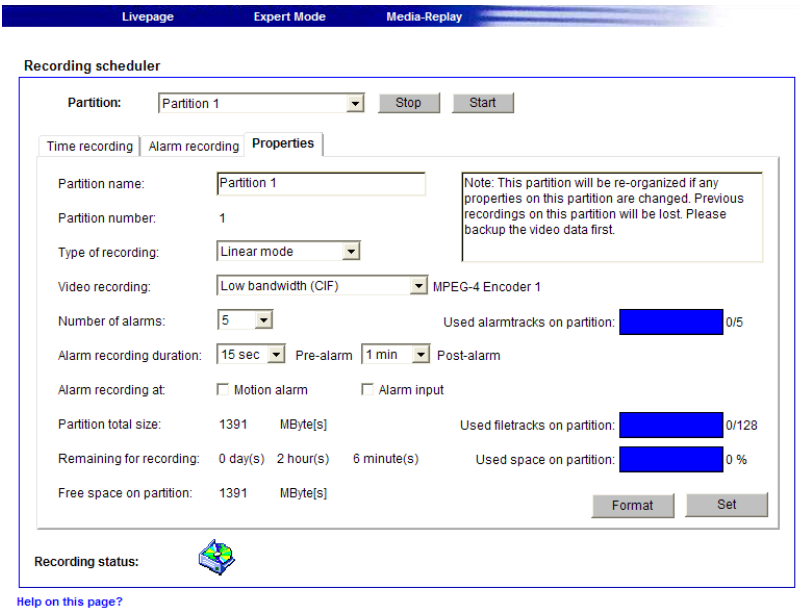
Here you can define the times when recordings are to be made to the storage medium in the event of an alarm.

As for time recording, separate selection fields are available for each partition. You can select up to 16 separate periods for each day of the week. An alarm recording takes place only during the selected periods.

Note
If a time period has already been selected for time recording, you can no longer select it for alarm recording (see **Time recording**, page 53).

Warning!
For alarm recordings, alarm tracks must be set up on the desired partition (see **Number of alarm tracks**, page 56).

Properties



You can view the current parameters for each selected partition and change them as required in the recording scheduler. You can also activate the alarms that you want to trigger recording. You can also set the profile for the recording here.

Warning!
Making changes to a partition causes the affected partition to be reorganized and all sequences stored on it to be lost. You should therefore back up all important sequences to the computer's hard drive before making changes to the partition.

Partition name:

You can enter a new name for the partition here.

Partition number:

This shows information about the number of the associated partition.

Type of recording:

Select the desired type of recording here.

In **Ring mode**, recording will continue indefinitely. When the maximum storage medium space has been reached, the oldest recordings will be overwritten automatically.

In **Linear mode**, recording will continue until all the disk space has been used. Then recording will be stopped until some old recordings are deleted to provide free space (see page 58).

Video recording:

Select here the profile to be active while recording.

Number of alarms:

The VideoJet 10 uses a special recording mode for alarm recording to optimise the use of the memory capacity. As soon as a time slot for alarm recording begins, continuous recording starts on a segment the size of a complete alarm sequence (pre- and post-alarm).

This segment on the partition works like a ring buffer and is overwritten again and again until an alarm is actually triggered. After that, recording on this segment will go on for the time predefined for post-alarm recording, and then a new segment will be used in the same way.

For this reason the recorded alarm file is always saved at its full length to the partition and the recording space required for each alarm recording can be calculated easily.

Here you set the number of alarm tracks on the partition. One alarm event can be recorded on each alarm track. The specified number of alarms can be recorded and archived accordingly. A partition can contain a maximum of 128 alarm recordings.

If the **Ring mode** option is set for the partition, the predefined number of the latest alarm recordings will be stored. If the **Linear mode** option is set, recording will stop as soon as all the alarm tracks have been written.

Used alarmtracks on partition:

Indicates how many of the total alarm tracks created are currently used.

Alarm recording duration:

Select the period to be covered by the pre- and post-alarm recording.

Alarm recording at:

Here you can select the alarm sensors that should trigger an alarm.

Warning!
The alarm sensors must be activated for them to be able to trigger recording: Configure and activate the motion alarm under **Motion detector** (see page 61) and the alarm input under **Alarm sources** (see page 58).

– Click in the checkbox for the alarm sensor you want to trigger a recording. The selected checkbox is marked.

Partition total size:

Indicates how much space the partition occupies on the storage medium.

Used filetracks on partition:

Up to 128 recording tracks are created automatically on a partition. Each new recording is assigned a separate track.

Selecting the **Linear mode** option means that no more new recordings are made after the 128 tracks have been used. Old recordings must be deleted before the tracks can be re-used. Selecting **Ring mode** means that the 129th recording will be written on the first track, so that the oldest recording is always overwritten by the newest.

Remaining for recording:

Indicates the maximum time remaining for recording. It is automatically updated after the parameters are changed.

Used space on partition:

Indicates the percentage of the partition that is already used.

Free space on partition:

Indicates how much space is still free on the partition.

Recording status:

The icon indicates recording activity on this partition. The icon is animated while recording is in progress.

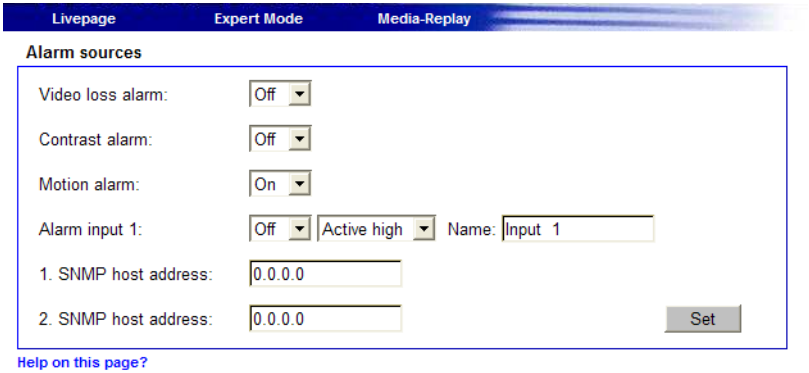
Format

You can delete all recordings on a partition at any time.

Warning!
Before deleting recordings, check them and back up any important sequences to your computer's hard drive.

– Click **Format** to delete all recordings on the partition currently selected.

Alarm sources



You can configure the possible alarm triggers for the VideoJet 10 (e.g. the alarm input).

Video loss alarm:

Select **On** if the unit is to activate an alarm whenever the video signal is interrupted.

Contrast alarm:

The VideoJet 10 can trigger an alarm if the camera image shows too little contrast, possibly indicating that the lens has been sprayed with paint or covered in some way. Select **On** to enable this function.

Motion alarm:

Select **On** if the unit is to respond to a motion alarm.

Motion detection is configured on a separate page (see page 61).

Alarm input 1:

Select the option **On** in order to activate the alarm via the external alarm sensor. Otherwise, select **Off**.

Choose **Active high** to trigger the alarm closing the contact. Choose **Active low** to trigger the alarm opening the contact.

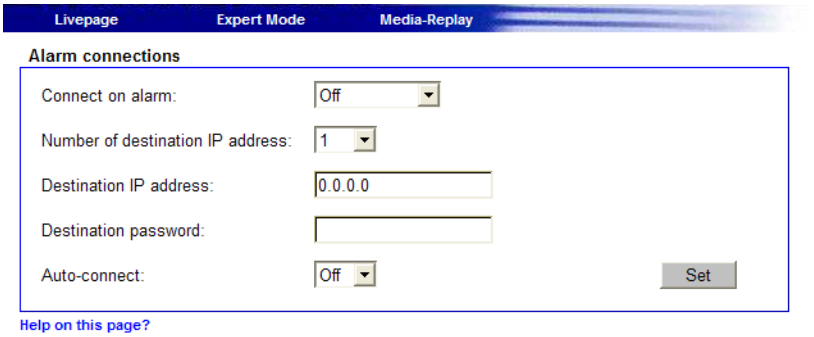
Name:

You can enter a name for the alarm input, which is then displayed next to the icon for the alarm input on the video live page when configured accordingly (see page 78).

1./2. SNMP host address:

Enter the IP addresses of up to two chosen receivers here if SNMP-traps are to be sent.

Alarm connections



You can select a number of options for the response of the VideoJet 10 to an alarm. In case of an alarm, the VideoJet 10 can establish a connection to a predefined IP address (VCS hardware receiver or PC with receiver software) automatically. You can enter up to 10 IP addresses which will be selected in sequence by the unit until a connection is established.

Note
Sender and receiver must share the same subnet for connection set-up (see page 69).

Connect on alarm:

Select **On** for the VideoJet 10 to establish a connection automatically to a specified IP address in the event of an alarm.

With the setting **Follows input 1**, the VideoJet 10 holds the automatically set up connection to a remote location as long as an alarm signal is present at the alarm input 1.

Number of destination address:

Here you assign the numbering for the IP addresses to be contacted in the event of an alarm. The unit contacts the remote locations one after the other in the numbered sequence until a connection has been established.

Destination IP address:

For each number, enter the corresponding IP address of the desired remote unit.

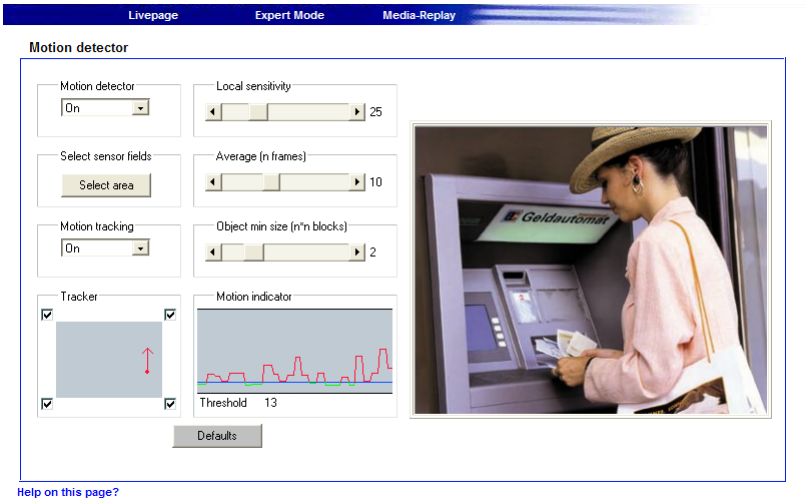
Destination password:

Enter the password, if the remote unit is protected by a password.

Auto-connect:

Select **On** if an active connection should be reestablished automatically to one of the previously specified IP addresses after each restart, e.g. after a connection breakdown or network dropout.

Motion detector



The VideoJet 10 has an integrated video sensor which can detect changes in the signal. Such changes are due primarily to movements in the camera's field of view.

The sensitivity of the video sensor can be adjusted, so an alarm is generated only if specified values are exceeded.

Note
The video sensor monitors Stream 1. For exact motion detection it is recommended to choose CIF as video resolution for Stream 1 (see page 41).

In order for the sensor to function, the following conditions must be met:

- The motion detector must be enabled.
- At least one sensor field must be activated.
- The individual parameters must be set for the operating environment and the desired responses configured accordingly.
- The sensitivity must be set to a value greater than zero.

Warning!
Reflections of light (off glass surfaces, etc.), switching lights on or off or changes in the light level caused by cloud movement on a sunny day can

trigger unintended responses from the video sensor and generate false alarms. Run a series of tests under day and night conditions to ensure that the sensor works as intended.

For indoor surveillance, ensure constant lighting of the areas during the day and at night.

Uniform surfaces without contrast can trigger false alarms even with constant lighting.

☞ **Note**
Clicking the **Defaults** button will reset the video sensor to its factory configuration.

Motion detector

Select **On** to activate the video sensor.

Select sensor fields

The areas of the image to be monitored by the video sensor can be selected. The video image is subdivided into 396 square sensor fields. Each of these fields can be activated or deactivated individually. If it is necessary to exclude particular regions of the camera's field of view from monitoring due to continuous movement (by a tree in the wind, etc.), the relevant fields can be deactivated.

– Click **Select area** to configure the sensor fields. A new window will open.
– If necessary, click **Clear all** first to clear the current selection (fields marked red).
– Left-click the fields to be activated. Activated fields are marked red.
– Click **Select all** to select the entire video frame for monitoring.
– Right-click any fields you wish to deactivate. "Inactive" fields are marked white.
– Click **Set** to save the configuration.
– Click the close button (**X**) in the window title bar to close the window without saving the changes.

Local sensitivity

The basic sensitivity of the video sensor can be adjusted for the environmental conditions to which the camera is subject.

The sensor reacts to variations in the brightness of the video image. The darker the observation area, the higher the value that must be selected.

– Adjust the sensitivity by dragging the scroll thumb to the desired setting.

Average (n frames)

You can define the number of frames for which a movement is monitored before generating an alarm. This helps prevent false alarms from events such as a bird flying across the surveillance area.

– Select the value by dragging the scroll thumb to the desired position.

Object min size (n*n blocks)

You can specify the number of sensor fields that a moving object must cover to generate an alarm. This is to prevent objects that are too small from triggering an alarm.

A minimum value of 2 (2 × 2 sensor fields) is recommended.

– Select the value by dragging the scroll thumb to the desired position.

Motion indicator

To prevent false alarms, a threshold can be applied to the motion signal. This allows effects such as the background noise from the camera itself to be filtered out.

The blue line in the illustration represents the alarm threshold. Any value above this level will trigger an alarm. The parts of the motion signal line which will cause an alarm are shown in red. The alarm threshold can be set higher or lower to suit your needs.

– Observe the amplitude of the displayed movement signal over a longer period of time under all the lighting conditions that may be encountered.

– Move the pointer over the blue line.

– Press the left mouse button in and drag the line to the desired level.

Motion tracking

In some situations you may want an alarm triggered only if movement takes place in a particular direction. In such cases, enable motion detection and select the direction of movement required to trigger an alarm.

– Select **On** to enable the motion tracking feature of the video sensor.

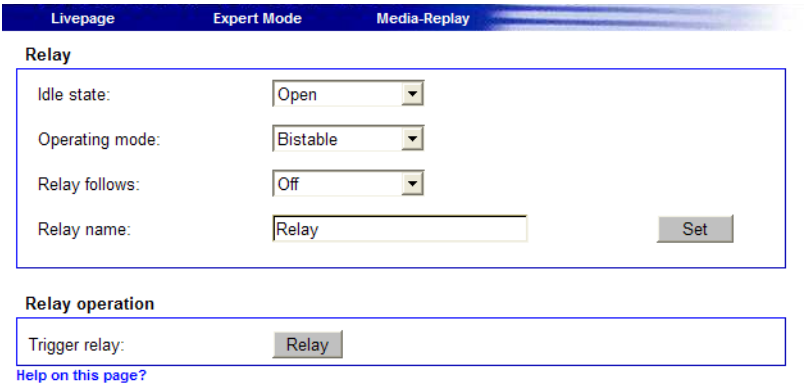
Tracker

The **Tracker** field shows an arrow indicating the current motion vector in the video image. The checkboxes at the corners of the field are used to select the directions to monitor. For example, if all movements toward the left and up are to trigger an alarm, mark the top left corner. If all movement to the left is to trigger an alarm, mark the upper left and the lower left checkboxes.

– Observe the movement in the video image indicated by the arrow over a longer period of time at all the relevant light levels.

– Mark the checkboxes to activate the corresponding directional components for monitoring.

Relay



You can configure the switching behavior of the relay output. Relay action can be specified either as open switch (normally closed contact) or closed switch (normally open contact).

It is also possible to specify whether the output signal should be bistable or monostable. With bistable operation, the relay remains in the activated state.

With monostable operation, the delay time can be selected after which the relay reverts to its idle state.

You can choose various events that activate the output automatically. Thus, for example, it is possible to switch on a spotlight in response to a motion alarm and switch it off again when the alarm situation is no longer active.

Idle state:

Select **Open** if the relay is to operate as a normally open contact or **Closed** if it is to operate as a normally closed contact.

Operating mode:

Select an operating mode for the relay.

If, for example, a light switched on by an alarm is to remain lit when the alarm has ended, select **Bistable**. If an audible signal activated by an alarm is to sound for a period of ten seconds for example, select **10 sec**.

Relay follows:

Select a particular event to trigger the relay. The following events can activate the relay:

- **Off**
  No relay triggering by events
- **Connection**
  Triggering caused whenever a connection is established
- **Video alarm**
  Triggering caused by loss of the video signal
- **Motion alarm**
  Triggering caused by the motion alarm
- **Local input 1**
  Triggering caused by the alarm input 1
- **Remote input 1**
  Triggering caused by a relay contact at the target location (only when a connection is established)

- **Contrast alarm**
  Triggering caused by a lack of contrast in the picture

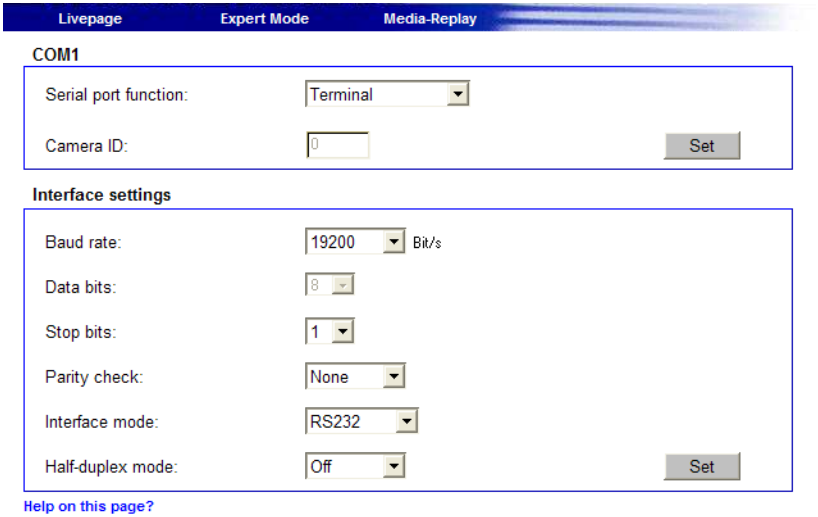
Relay name:

A name can be assigned to the relay in this field. The name will be shown on the button under **Trigger relay**. The Livepage can also be configured to display the name next to the relay icon.

Trigger relay:

Click the button to switch the relay manually (for example for test purposes or to operate a door opener).

COM1



The **COM1: RS232/485**serial interface port can be configured to meet your requirements.

Serial port function:

Select a controllable device from the list. If you want to use the serial interface to transmit transparent data, select **Transparent**. To operate the VideoJet 10 with a terminal, choose **Terminal**.

Note

After selecting an option, the remaining parameters in the window are set automatically and should not be altered.

Camera ID:

If necessary, adjust the ID for the peripheral device that is to be controlled (e.g. dome camera or PTZ).

Baud rate:

Select the value for the data communication rate in Bit/s.

Data bits:

The number of data bits per character cannot be changed.

Stop bits:

Select the number of stop bits per character.

Parity check:

Select the type of parity check.

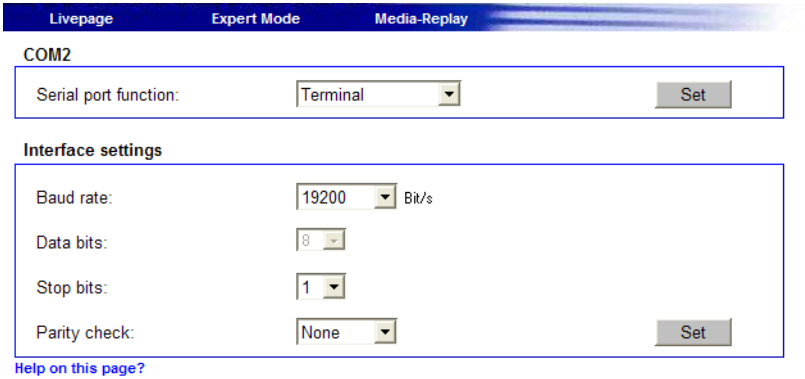
Interface mode:

Select the desired protocol for the serial interface.

Half-duplex mode:

Choose the setting appropriate for your application.

COM2



The **COM2: RS232** serial interface port can be configured to meet your requirements.

Serial port function:

If you want to use the serial interface to transmit transparent data, select **Transparent**. To operate the VideoJet 10 with a terminal, choose **Terminal**.

Baud rate:

Select the value for the data communication rate in Bit/s.

Data bits:

The number of data bits per character cannot be changed.

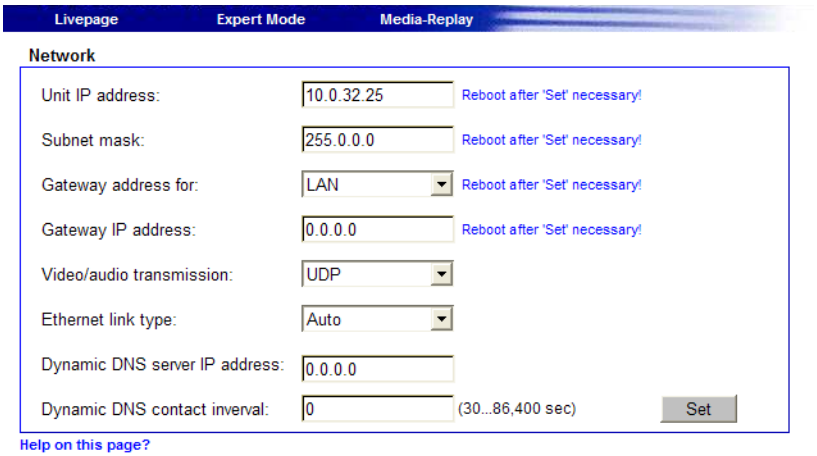
Stop bits:

Select the number of stop bits per character.

Parity check:

Select the type of parity check.

Network



The settings on this page are used to integrate the unit into an existing network.

Warning!
Changes to the IP address, subnet mask or gateway address are sent to the unit when the **Set** button is clicked. However, they only take effect after the unit is restarted!

– Click **Set** after entering a new IP address.

– Enter the old IP address in the address field of the Web browser and append `/reset` to it (e.g. `192.168.0.1/reset`). The VideoJet 10 will be restarted after which it can only be accessed at the new IP address.

Unit IP address:

Enter the desired IP address for the VideoJet 10 in this field. The IP address must be valid for the network.

Subnet mask:

Enter the subnet mask corresponding to the inserted IP address here.

Gateway address for:

Select here if the gateway address is to be used for connections over **LAN** or **WLAN**.

Gateway IP address:

Enter the IP address of the gateway here if the unit is to establish a connection to a unit that is in another subnet. Otherwise, this field can remain empty (0.0.0.0).

Video/audio transmission:

If the device is used behind a firewall, **TCP (HTTP port)** should be selected as the transmission protocol. For use in a local network, choose **UDP**.

Warning!
Multicast operation is possible only with the UDP protocol. The TCP protocol does not support multicast connections.

Note
In UDP mode the MTU is 1514 bytes.

Ethernet link type:

If the VideoJet 10 is connected to the network via a switch, both devices must be set for the same type of network connection. If necessary, ask your network administrator about the switch setting.

Choose **Auto** for an autosensing network connection. If necessary you can set the value to 10 or 100 MBit/s and full or half-duplex mode (**FD** or **HD**).

Warning!
Errors such as picture interference can occur if the network capacity is not suitable for transmission of the maximum data rate generated by the VideoJet 10.

Dynamic DNS server IP address:

When operating a unit over the Internet, an address pool with dynamic addresses is used for greater efficiency. This means that the unit is assigned an IP address each time a connection is made and this address varies. In this case, access is easier if the unit is listed on a DNS server. It will contact the server at regular

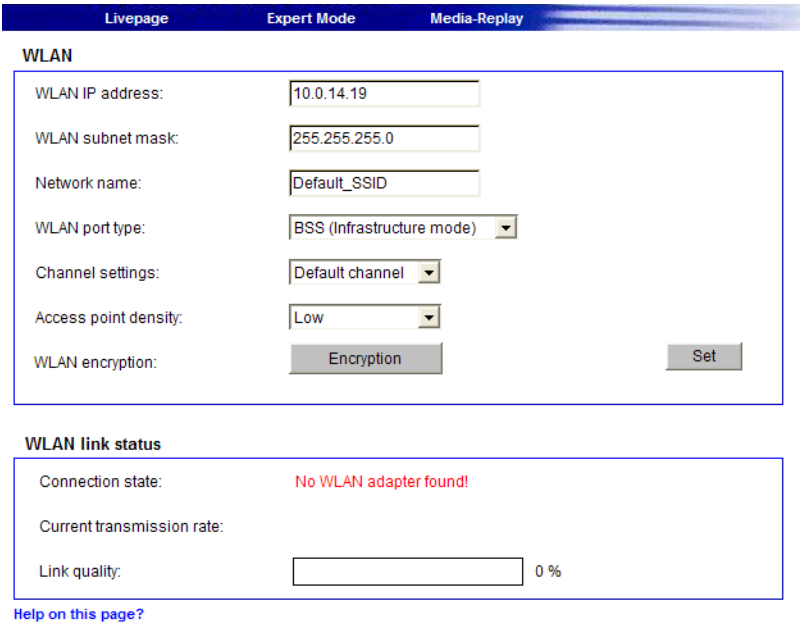
intervals and register its unit name and IP address. To connect to the VideoJet 10 via the Internet, it is enough to enter the unit name and the URL of the DNS server. The server returns the current Internet IP address for the connection.

You can use the DNS server of VCS **videotec.info** as DNS server. The associated IP address is 195.145.107.78. The VideoJet 10 contacts this server automatically if the desired refresh interval is entered for the next parameter. If the unit name is **MyVideoJet** for example, `MyVideoJet.videotec.info` can be entered as URL in the browser to make a connection.

Dynamic DNS contact interval:

Enter the desired update interval in seconds.

WLAN



Apart from the integrated Ethernet adapter of the VideoJet 10 a suitable wireless LAN adapter card can be inserted at the CompactFlash slot of the device. Thus the VideoJet 10 can be easily integrated into an existing wireless LAN (WLAN), without the need of additional wiring of CAT.5 network cables.

Warning!
When setting up a WLAN take account of the technical information of all devices, e.g. Access Points or WLAN cards.

WLAN IP adress:

For connection via WLAN a dedicated WLAN IP address must be assigned to the VideoJet 10. This IP address must refer to a subnet other than the Ethernet IP address.

Enter here the IP address for the WLAN.

WLAN subnet mask:

Enter here the subnet mask referring to the WLAN IP address.

Network name:

In order of two devices being connected over WLAN they must belong to the same WLAN.

Enter here the name (SSID) of the desired Wireless LAN.

WLAN port type:

Here you decide on the port type used for the WLAN connection:

- **BSS (Infrastructure mode)**: Connection via Access Point
- **IBSS (Peer-to-peer mode)**: Direct connection to another WLAN capable device, e.g. laptop or VCS device

Channel settings:

Choose here the channel for the WLAN connection.

Note
Sender and receiver must use the same channel to enable transmission.

Access point density:

Enter here a value indicating the number of available Access Points. Choose **High** if the number is large, **Low** if only a few Access Points are available.

WLAN encryption:

WLAN connections are not protected against unauthorized access. It is possible to code the data with an encryption key for security.

Click on the button **Encryption** to open the respective window.

WLAN Encryption:

You can choose out of three settings with different security levels:

- **No Encryption**
  for WLAN-transmission without encryption. A connection is only set up when the encryption functionality on the remote device is disabled, too.
- **Open System**
  for encryption depending on the settings of the remote device. If the remote device operates with an encryption key, that key is needed to set up a connection and must be inserted in the **WEP key** fields. When the remote device operates without an encryption key the fields for WEP keys can be left empty.
- **Shared Key**
  stands for permanent WLAN standard encryption. Encryption keys of 40 or 104 Bits of length are used in this mode. Remote and local device must use identical keys to enable transmission.

WEP key index:

When encryption is activated on both ends of the WLAN connection the same WEP key index must be used to enable transmission.

WEP key 1 ... WEP key 4:

Enter here the four keys if you want to protect the connection. The keys can be entered as standard text in ASCII format or as hexadecimal value. Standard text can be 5 or 13 Bytes of length for **Shared Key**, when entering hexadecimal digits the key can be 10 or 26 Bytes of length (sample for hexadecimal WEP key with the length 10: FFFBEEE12A). All four keys must have the same length.

Note
Connection is only possible when both ends use the same encryption parameters.

Connection state:

Here the connection state of the WLAN adapter is displayed. The following messages are possible:

- **No WLAN adapter found**
- **Connecting! Try to establish connection**
- **Connection successfully established** with information on the data rate

Current transmission rate:

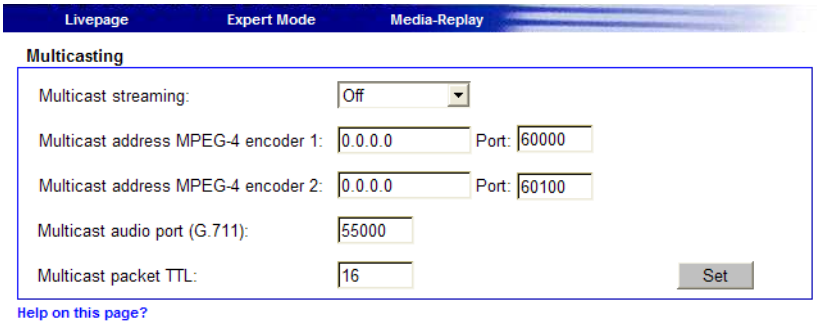
This text message box informs about the current transmission rate from the local WLAN adapter to the remote device.

Note
WLANs do not guarantee a specific data rate, as it depends on the intensity of the destination field. The de facto data rate is conditioned by the weakest link within the WLAN.

Link quality:

The value indicates the quality of the current WLAN connection. A value of **100%** stands for best link quality to the next Access Point or remote device. A value less than **15%** indicates very poor quality at a critical limit.

Multicasting



In addition to a 1:1 connection between an encoder and a single receiver (unicast), the VideoJet 10 can enable multiple receivers to receive the video signal from an encoder simultaneously. This is achieved either by duplicating the data stream in the unit with subsequent distribution to multiple receivers (multi-unicast) or by distribution of a single data stream over the network to a number of receivers in a defined group (multicast). A dedicated multicast address and port can be specified for each of encoder (stream).

Note

The prerequisite for multicast operation is a multicast-capable network using the UDP and IGMP protocols. Other group membership protocols are not supported. The TCP protocol does not support multicast connections.

A special IP address (class D address) must be configured for multicast operation in a multicast-enabled network.

The network must support group IP addresses and the Internet Group Management Protocol (IGMP V2). The address range is from 224.0.1.0 to 239.255.255.255.

The multicast address can be the same for multiple encoders. Then however it is necessary to use a different port in each case so that multiple data streams are not sent simultaneously over the same port and multicast address.

Note

You must set the parameters for each encoder (stream) individually.

Multicast streaming

Select the option **MPEG-4** to enable multicast streaming. **Off** disables multicast streaming.

Multicast address MPEG-4 encoder 1 (2):

Enter a valid multicast address for each encoder (stream), so that it will work in multicast mode (duplication of the data streams in the network)

When the multicast address is set to **0.0.0.0**, the respective encoder (stream) operates in multi-unicast mode (copies the data streams on the unit). The VideoJet 10 supports Multi-Unicast connections for up to 5 receivers simultaneously.

☞ **Note**
Duplication of the data on the unit for multi-unicast connections requires considerable processor power and, under certain circumstances, leads to limitations in the picture quality.

Port:

In the case of simultaneous data streams with the same multicast address the data streams must be assigned to different ports.

Enter the port address for the particular stream here.

Multicast audio port (G.711):

If audio is to be transmitted in multicast mode, too, the audio data must be assigned to another port as it is a separate data stream.

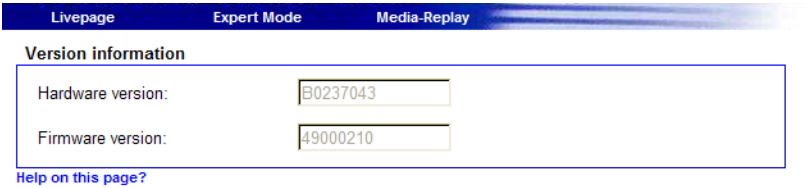
Enter the port address for the audio stream here.

☞ **Note**
A separate audio stream is only transmitted if the corresponding function on the **Audio stream** page is enabled (see page 45).

Multicast packet TTL:

This value determines the "life span" of multicast packets on the network. If multicast is operated via a router, the value must be greater than 1 to ensure that the packets are passed on.

Version information



The hardware and firmware version numbers are for information only and cannot be altered. Keep a record of these numbers in case technical assistance is required.

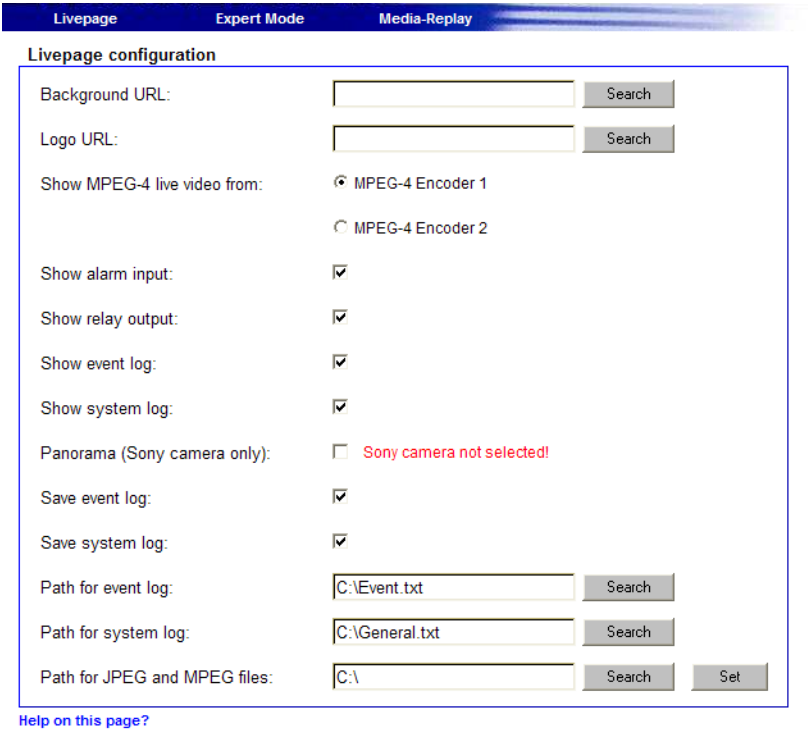
Hardware version:

The hardware version number of the VideoJet 10 is displayed.

Firmware version:

The firmware version number of the VideoJet 10 is displayed.

Livepage configuration



In this dialog, the appearance of the Livepage can be set up to suit your requirements. Options are provided here to display various information and operating elements in addition to the video image.

Moreover, individual background graphics can be used for the main window and for the upper area of the window (banner).

Note

Either GIF or JPEG images can be used. The file paths must correspond to the access mode (local paths such as `C:\Images\Logo.gif` for local files and URLs such as `http://www.vcs.com/images/logo.gif` for files on the Internet).

Please note for access via Internet/intranet that there must be a connection in order to display the image. The image files are not stored on the VideoJet 10.

– Mark the checkboxes for the information to be displayed on the Livepage. The selected elements are marked.

– Check the display of the desired information on the Livepage.

Background URL:

Enter the path to a suitable background graphic in this field. The image can be stored on a local computer, a local network or at an Internet address.

– Click **Search** if necessary to find a suitable image on the local network.

Logo URL:

Enter here the path for a suitable image for the upper part of the window (banner). The image can be stored on a local computer, a local network or at an Internet address.

– Click **Search** if necessary to find a suitable image on the local network.

Note
To restore the original graphics, just delete the entries in the fields **Background URL** and **Logo URL**.

Show MPEG-4 live video from:

Select a stream for the MPEG-4 video image on the Livepage. **MPEG-4 Encoder 1** is equivalent to Stream 1.

Show alarm input:

The alarm input is displayed next to the video image as an icon along with its assigned name. If an alarm is active the icon changes color.

Show relay output:

The relay output is displayed next to the video image as icon along with its assigned name. If the relay is active the corresponding icon changes color.

Show event log:

The event log will be displayed with date and time in a field under the video image.

Show system log:

The system log will be displayed with date and time in a field under the video image and provide information about connections, etc.

Panorama (Sony camera only):

Selecting this option enables the display of a panoramic image. The panoramic image is shown in the upper part of the browser window. It consists of five single images that can be updated any time (see page 112).

Note
The panoramic image facility is only available with Sony EVI-D100 or EVI-D30/31 cameras.

Save event log:

Select this option to save the event log in a text file on the local computer.

These logs can be viewed, edited and printed with any software that can work with text files.

Save system log:

Select this option to save the system log to a text file on the local computer.

These logs can be viewed, edited and printed with any software that can work with text files.

Path for event log:

Enter full path for the event log file.

– If necessary, click **Search** to find a suitable folder.

Path for system log:

Enter full path for the system log file.

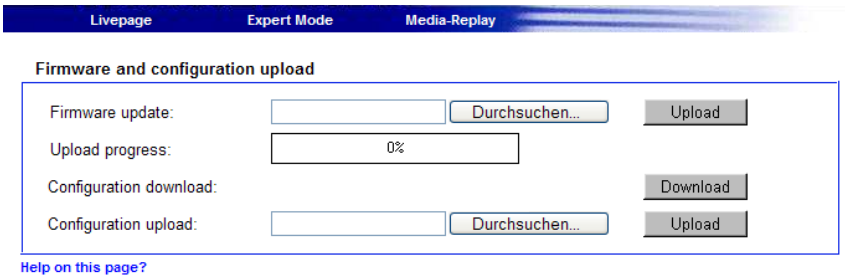
– If necessary, click **Search** to find a suitable folder.

Path for JPEG and MPEG files:

Enter the full path for saving snapshots and video sequences to be saved from the Livepage.

– If necessary, click **Search** to find a suitable folder.

Firmware and configuration upload



Firmware update:

The VideoJet 10 is designed in such a way that its functions and parameters can be updated with firmware. To accomplish this, the current firmware is loaded on the unit via the selected network. It will be installed automatically.

Thus a VideoJet 10 unit can be serviced and updated remotely without requiring a technician to make changes on-site.

The current firmware can be obtained from VCS Customer Service or downloaded from the Internet at our Web site (www.vcs.com).

Warning!
Before starting the firmware upload, be sure that you have selected the correct file! Uploading the wrong files can result in the unit no longer being addressable, requiring it to be replaced.

Do not interrupt the firmware installation for any reason! Interruption will damage the flash EPROMs. This can also result in the unit no longer being addressable, requiring it to be replaced.

– First, save the update file to the hard disk.

– Enter the full path for the update file in the field or click **Durchsuchen...** to locate and select the file.

– Click **Upload** to begin transmission to the unit. Transmission progress can be monitored from the progress bar.

The new firmware will be decompressed and used to reprogram the flash EPROM. The time necessary is indicated by the message **going to reset Reconnecting in ... seconds**.

After the upload is completed successfully, the unit will restart automatically.

If the LED **Power** is red, the upload has failed and must be done again. This requires that you work from a special page:

– Enter the IP address of the unit in the browser and append `/main.htm` (for example `192.168.0.12/main.htm`).

– Repeat the upload.

Configuration download:

The VideoJet 10 configuration data can be saved on a computer and the saved data loaded on a unit from the computer.

– Click **Download**. A dialog will appear.

– Follow the instructions to save the current settings.

Configuration upload:

– Enter the full path of the file to upload or click **Durchsuchen...** to select the desired file.

– Make sure that the file to be loaded originates from the same type of device as the unit you want to reconfigure.

– Click **Upload** to begin transmitting the file to the unit. Transmission progress can be monitored from the progress bar.

After the upload is completed, the new configuration will be activated. The time necessary is indicated by the message **going to reset Reconnecting in ... seconds**.

After the upload is completed successfully, the unit will restart automatically.

Function test

The VideoJet 10 offers a number of configuration options. Therefore you should check that it works properly after installation and configuration.

This is the only way to ensure that the VideoJet 10 will function as intended in an alarm situation.

Check for the following functions (among other things):

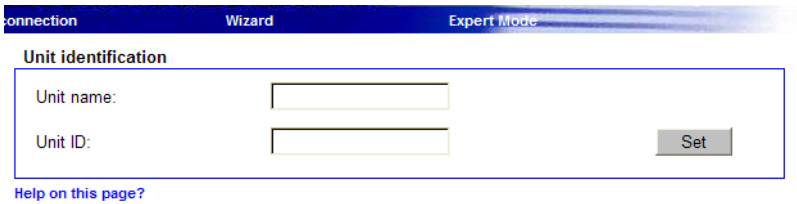
- Can the VideoJet 10 be dialed remotely?
- Does the VideoJet 10 transmit all the data required?
- Does the VideoJet 10 respond to alarm events as required?
- Is it possible to control peripheral devices if necessary?

7 Configuring the Receiver

Basics

The VideoJet 10 offers various configuration options. Configuration in Expert Mode with a Web browser is described below. Basic information about configuration with a Web browser and other configuration options are described in Chapter 5 of this user guide.

Unit identification



The unit can be assigned a name and an ID to facilitate identification. Both make the task of managing several units in larger video surveillance systems with VIDOS von VCS or other tools much simpler.

Unit name:

Enter a name for the unit here.

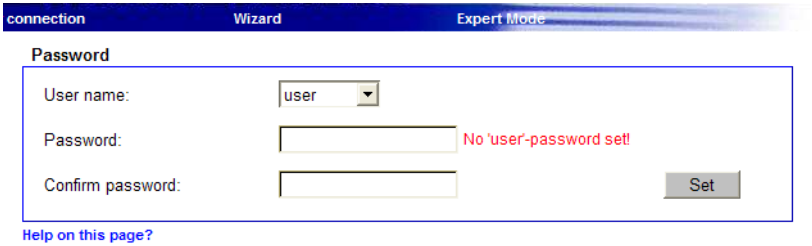
Note

The unit name is only used to identify a device remotely, for example in case of an alarm call or when using a DNS server for easier device calling. Enter a name that makes it as easy as possible to identify the location unambiguously.

Unit ID:

Each VideoJet 10 should be assigned a unique identifier that can be entered here as an additional means of identification.

Password



A VideoJet 10 unit is generally protected by password to prevent unauthorized access. You can limit the scale of access by choosing between different authorization levels (**User name:**).

Note

Correct password protection is only granted when all higher levels of authorization are also protected by password. If a **user** password is assigned a **service** password must be assigned, too. Therefore assign passwords always beginning with the highest authorization level.

User name:

The receiver operates with two user names: **service** and **user** which refer to different authorization levels.

The user name **service** refers to the highest authorization level. Logged in under **service**, you can use all functions of the VideoJet 10 and change all settings.

The user name **user** refers to the medium authorization level. Logged in under **user**, you can connect the unit to a sender on the network and close the connection, but no changes can be made to the configuration.

Password:

You can define and change a unique password for each user name if you are logged on as **service** or if the unit is not protected by a password.

Enter a password for the chosen user name here.

Confirm password:

Re-enter the new password to prevent typing mistakes.

Note

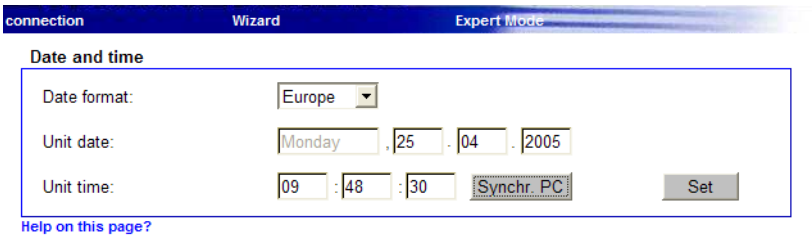
The new password becomes effective only after you have clicked **Set**. Therefore always click **Set** immediately after having entered and confirmed the password even if afterwards you want to assign a password to another user name, too.

Language

Website language:

Select the language for the website from the dropdown field.

Date and time



If a number of units are part of a system, it is important that the internal clocks of these separate units be synchronized. Only if all units operate with the same time it is possible, for example, to correctly identify and evaluate recordings that have been made simultaneously.

Date format:

Choose the desired date format here
(**Europe**: DD.MM.YYYY; **USA**: MM.DD.YYYY; **Japan**: YYYY/MM/DD).

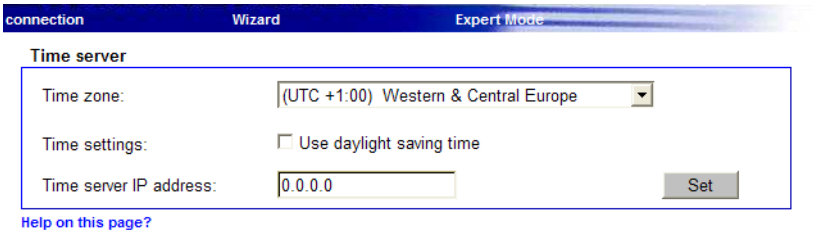
Unit date:

Enter the current date here. Since the unit time is controlled by the internal clock, it is not necessary to enter the day of week. This is added automatically.

Unit time:

Enter the current time here or click the **Synchr. PC** button to copy the system time of your computer to the VideoJet 10.

Time server



Using the Time Server Protocol the VideoJet 10 can receive a time signal from a time server and use it to set its internal clock. The device calls up the time signal automatically every ten minutes.

Time zone:

Select the time zone that applies to your system.

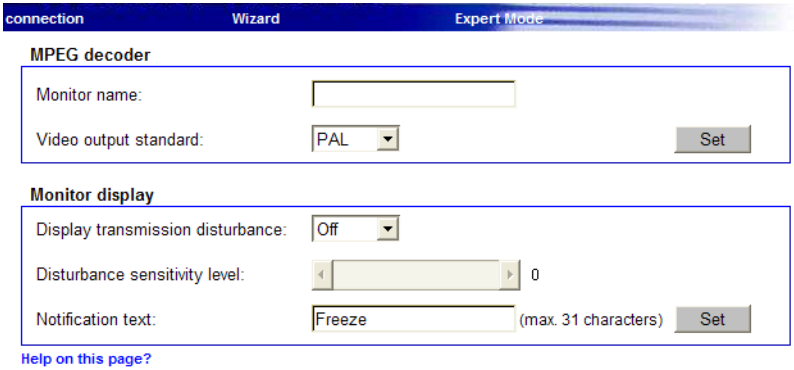
Time settings:

Select this during daylight savings time if the time change is to be taken into account. Deselect it when standard time has resumed.

Time server IP address:

Enter the IP address of the chosen time server here.

MPEG decoder



The monitor can be assigned a name to facilitate identification. The video output standard for the connected monitor can also be selected here.

The VideoJet 10 can monitor the incoming data stream for integrity and can display a notification text on the monitor when it has detected disturbances in the transmission.

Monitor name:

Enter the desired monitor name here. The monitor name is used for easier identification of the monitor in large systems, e.g. it is displayed in VIDOS, the VCS software for managing video surveillance systems.

Enter a unique, unambiguous name.

Video output standard:

Select the video standard for the monitor output.

Warning!
Be sure to choose the correct video standard to avoid damaging the monitor.

Display transmission disturbance:

Choose **On** to display a text on the monitor in case of transmission disturbances.

Disturbance sensitivity level:

Here you can define at what level the text display is triggered. The lower the value the higher the sensitivity level of the VideoJet 10.

Notification text:

Enter the text that is to be displayed on the monitor. It can contain up to 31 characters.

Audio stream

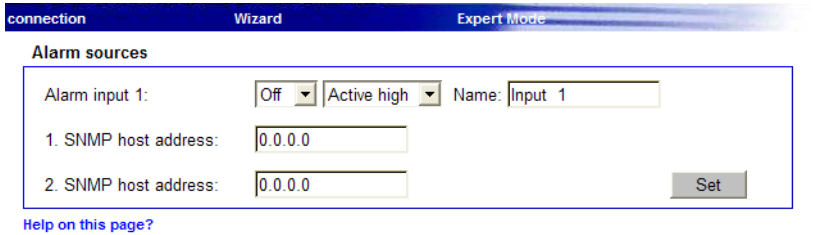
In addition to video data, the unit can also send and receive audio signals. The transmission of audio takes place at the same time as that of the video data in a separate data stream. Thus it increases the data traffic. The audio data is coded according to G.711 compression standard and requires an additional bandwidth of about 80 kBit/s per direction.

Note
Sending of audio signals via the receiver is only possible if the audio function of the sender is enabled (see page 90) and the checkbox **Include audio** on the **Decoder connection** page is activated (see page 124).

Enable audio:

To transmit a separate G.711 audio stream choose **On**.

Alarm sources



You can configure the alarm input of the VideoJet 10 decoder here.

Alarm input 1:

Select the option **On** in order to activate the alarm via the external alarm sensor. Otherwise, select **Off**.

Choose **Active high** to trigger the alarm closing the contact. Choose **Active low** to trigger the alarm opening the contact.

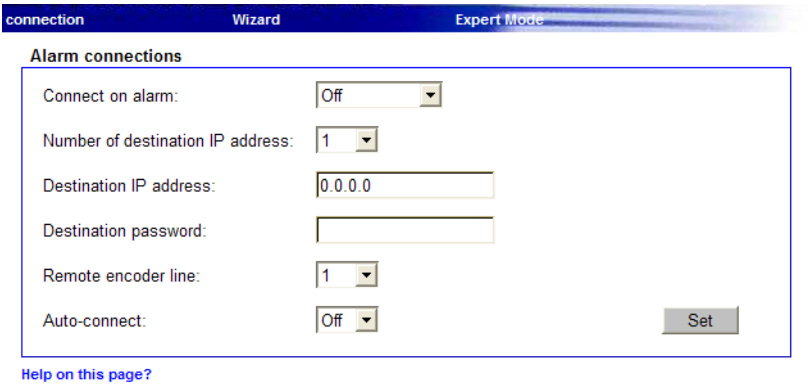
Name:

You can enter a name for the alarm input.

1./2. SNMP host address:

Enter the IP addresses of up to two chosen receivers here if SNMP-traps are to be sent.

Alarm connections



You can select a number of options for the response of the VideoJet 10 to an alarm. In case of an alarm, the VideoJet 10 can establish a connection to a predefined IP address, e.g. a VideoJet 10 sender, automatically. You can enter up to 10 IP addresses which will be selected in sequence by the unit until a connection is established.

Note
Sender and receiver must share the same subnet for connection set-up (see page 98).

Connect on alarm:

Select **On** for the VideoJet 10 to establish a connection automatically to a specified IP address in the event of an alarm.

With the setting **Follows input**, the VideoJet 10 holds the automatically set up connection to a remote location as long as an alarm signal is present at its alarm input 1. You can use this setting to establish a connection between two VideoJet 10 units via a connected on-off switch. In this case you don't need a computer to set up the connection.

Number of destination IP address:

Here you assign the numbering for the IP addresses to be contacted in the event of an alarm. The unit contacts the remote locations one after the other in the numbered sequence until a connection has been established.

Destination IP address:

For each number, enter the corresponding IP address of the desired remote unit.

Destination password:

Enter the password, if the remote unit is protected by a password.

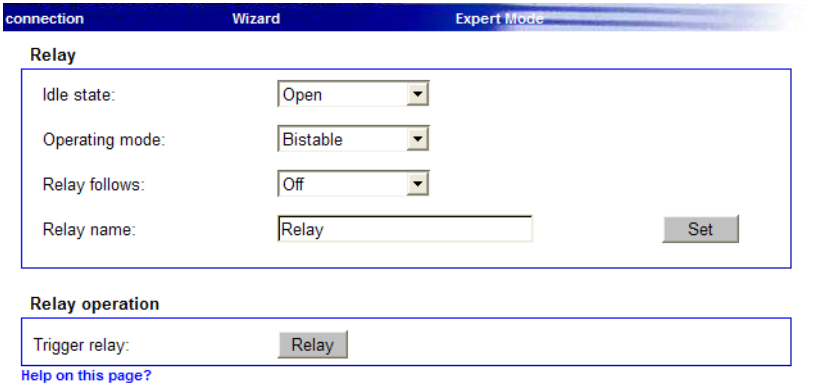
Remote encoder line:

If the remote unit is a multi-channel device enter here the number of the video input which is to be the data source.

Auto-connect:

Select **On** if an active connection should be reestablished automatically to one of the previously specified IP addresses after each restart, e.g. after a connection breakdown or network dropout.

Relay



You can configure the switching behavior of the relay output. Relay action can be specified either as open switch (normally closed contact) or closed switch (normally open contact).

It is also possible to specify whether the output signal should be bistable or monostable. With bistable operation, the relay remains in the activated state. With monostable operation, the delay time can be selected after which the relay reverts to its idle state.

You can choose various events that activate the output automatically. Thus, for example, it is possible to switch on a spotlight in response to a motion alarm and switch it off again when the alarm situation is no longer active.

Idle state:

Select **Open** if the relay is to operate as a normally open contact or **Closed** if it is to operate as a normally closed contact.

Operating mode:

Select an operating mode for the relay.

If, for example, a light switched on by an alarm is to remain lit when the alarm has ended, select **Bistable**. If an audible signal activated by an alarm is to sound for a period of ten seconds for example, select **10 sec**.

Relay follows:

Select a particular event to trigger the relay. The following events can activate the relay:

- **Off**
  No relay triggering by events
- **Connection**
  Triggering caused whenever a connection is established
- **Local input 1**
  Triggering caused by the alarm input 1
- **Remote input 1**
  Triggering caused by a relay contact at a remote location (only when a connection is established)

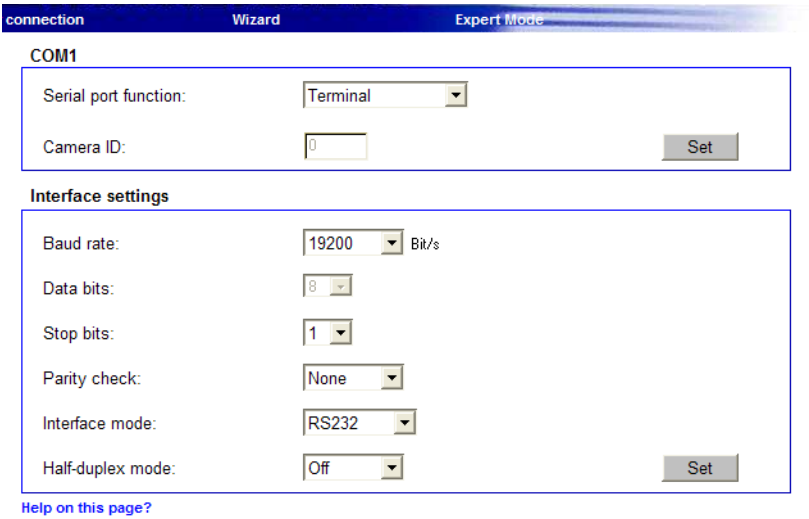
Relay name:

A name can be assigned to the relay in this field. The name will be shown on the button under **Trigger relay**.

Trigger relay:

Click the button to switch the relay manually (for example for test purposes or to operate a door opener).

COM1



The **COM1: RS232/485**serial interface port can be configured to meet your requirements.

Serial port function:

If you want to use the serial interface to transmit transparent data, select **Transparent**. To operate the VideoJet 10 with a terminal, choose **Terminal**.

Note
After selecting an interface function, the remaining parameters in the window are set automatically and should not be altered.

Camera ID:

The camera ID cannot be changed.

Baud rate:

Select the value for the data communication rate in Bit/s.

Data bits:

The number of data bits per character cannot be changed.

Stop bits:

Select the number of stop bits per character.

Parity check:

Select the type of parity check.

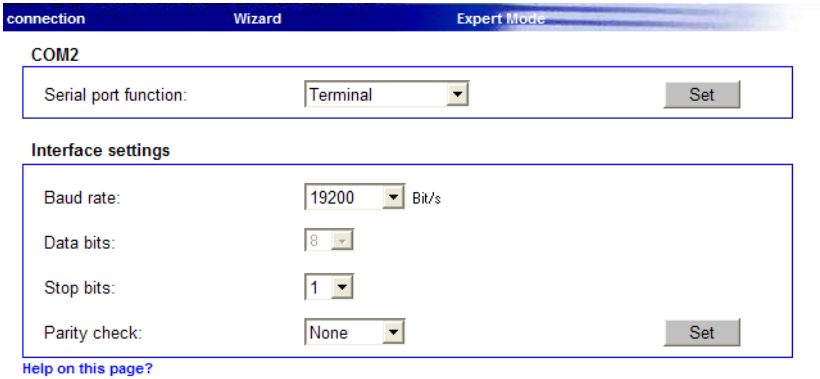
Interface mode:

Select the desired protocol for the serial interface.

Half-duplex mode:

Choose the setting appropriate for your application.

COM2



The **COM2: RS232** serial interface port can be configured to meet your requirements.

Serial port function:

If you want to use the serial interface to transmit transparent data, select **Transparent**. To operate the VideoJet 10 with a terminal, choose **Terminal**.

Baud rate:

Select the value for the data communication rate in Bit/s.

Data bits:

The number of data bits per character cannot be changed.

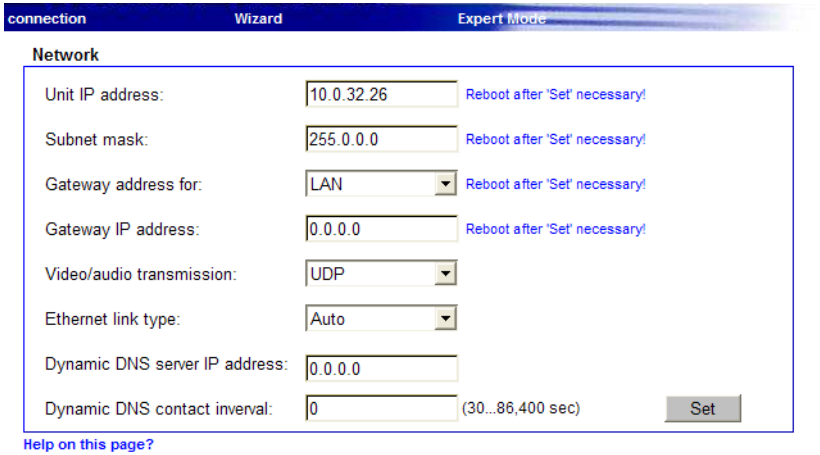
Stop bits:

Select the number of stop bits per character.

Parity check:

Select the type of parity check.

Network



The settings on this page are used to integrate the unit into an existing network.

Warning!
Changes to the IP address, subnet mask or gateway address are sent to the unit when the **Set** button is clicked. However, they only take effect after the unit is restarted!

– Click **Set** after entering a new IP address.

– Enter the old IP address in the address field of the Web browser and append `/reset` to it (e.g. `192.168.0.2/reset`). The VideoJet 10 will be restarted after which it can only be accessed at the new IP address.

Unit IP address:

Enter the desired IP address for the VideoJet 10 in this field. The IP address must be valid for the network.

Subnet mask:

Enter the subnet mask corresponding to the inserted IP address here.

Gateway address for:

Select here if the gateway address is to be used for connections over **LAN** or **WLAN**.

Gateway IP address:

Enter the IP address of the gateway here if the unit is to establish a connection to a unit that is in another subnet. Otherwise, this field can remain empty (0.0.0.0).

Video/audio transmission:

If the device is used behind a firewall, **TCP (HTTP port)** should be selected as the transmission protocol. For use in a local network, choose **UDP**.

Warning!
Multicast operation is possible only with the UDP protocol. The TCP protocol does not support multicast connections.

Note
In UDP mode the MTU is 1514 bytes.

Ethernet link type:

If the VideoJet 10 is connected to the network via a switch, both devices must be set for the same type of network connection. If necessary, ask your network administrator about the switch setting.

Choose **Auto** for an autosensing network connection. If necessary you can set the value to 10 or 100 MBit/s and full or half-duplex mode (**FD** or **HD**).

Warning!
Errors such as picture interference can occur if the network capacity is not suitable for transmission of the maximum data rate generated by the VideoJet 10.

Dynamic DNS server IP address:

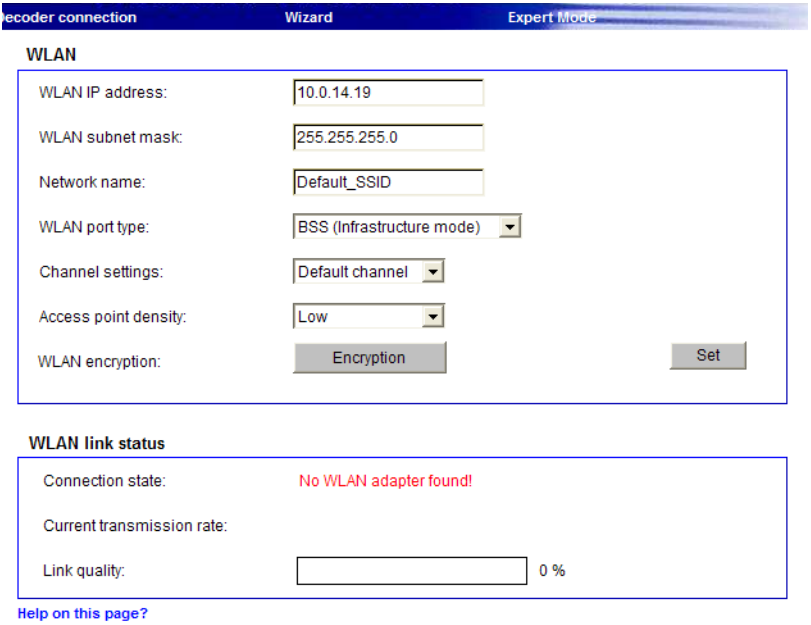
When operating a unit over the Internet, an address pool with dynamic addresses is used for greater efficiency. This means that the unit is assigned an IP address each time a connection is made and this address varies. In this case, access is easier if the unit is listed on a DNS server. It will contact the server at regular intervals and register its unit name and IP address. To connect to the VideoJet 10 via the Internet, it is enough to enter the unit name and the URL of the DNS server. The server returns the current Internet IP address for the connection.

You can use the DNS server of VCS **videotec.info** as DNS server. The associated IP address is 195.145.107.78. The VideoJet 10 contacts this server automatically if the desired refresh interval is entered for the next parameter. If the unit name is **MyVideoJet** for example, `MyVideoJet.videotec.info` can be entered as URL in the browser to make a connection.

Dynamic DNS contact interval:

Enter the desired update interval in seconds.

WLAN



Apart from the integrated Ethernet adapter of the VideoJet 10 a suitable wireless LAN adapter card can be inserted at the CompactFlash slot of the device. Thus the VideoJet 10 can be easily integrated into an existing wireless LAN (WLAN), without the need of additional wiring of CAT.5 network cables.

Warning!
When setting up a WLAN take account of the technical information of all devices, e.g. Access Points or WLAN cards.

WLAN IP adress:

For connection via WLAN a dedicated WLAN IP address must be assigned to the VideoJet 10. This IP address must refer to a subnet other than the Ethernet IP address.

Enter here the IP address for the WLAN.

WLAN subnet mask:

Enter here the subnet mask referring to the WLAN IP address.

Network name:

In order of two devices being connected over WLAN they must belong to the same WLAN.

Enter here the name (SSID) of the desired Wireless LAN.

WLAN port type:

Here you decide on the port type used for the WLAN connection:

- **BSS (Infrastructure mode)**: Connection via Access Point
- **IBSS (Peer-to-peer mode)**: Direct connection to another WLAN capable device, e.g. laptop or VCS device

Channel settings:

Choose here the channel for the WLAN connection.

Note
Sender and receiver must use the same channel to enable transmission.

Access point density:

Enter here a value indicating the number of available Access Points. Choose **High** if the number is large, **Low** if only a few Access Points are available.

WLAN encryption:

WLAN connections are not protected against unauthorized access. It is possible to code the data with an encryption key for security.

Click on the button **Encryption** to open the respective window.

WLAN Encryption:

You can choose out of three settings with different security levels:

- **No Encryption**
  for WLAN-transmission without encryption. A connection is only set up when the encryption functionality on the remote device is disabled, too.
- **Open System**
  for encryption depending on the settings of the remote device. If the remote device operates with an encryption key, that key is needed to set up a connection and must be inserted in the **WEP key** fields. When the remote device operates without an encryption key the fields for WEP keys can be left empty.
- **Shared Key**
  stands for permanent WLAN standard encryption. Encryption keys of 40 or 104 Bits of length are used in this mode. Remote and local device must use identical keys to enable transmission.

WEP key index:

When encryption is activated on both ends of the WLAN connection the same WEP key index must be used to enable transmission.

WEP key 1 ... WEP key 4:

Enter here the four keys if you want to protect the connection. The keys can be entered as standard text in ASCII format or as hexadecimal value. Standard text can be 5 or 13 Bytes of length for **Shared Key**, when entering hexadecimal digits the key can be 10 or 26 Bytes of length (sample for hexadecimal WEP key with the length 10: FFFBEEE12A). All four keys must have the same length.

Note
Connection is only possible when both ends use the same encryption parameters.

Connection state:

Here the connection state of the WLAN adapter is displayed. The following messages are possible:

- **No WLAN adapter found**

- **Connecting! Try to establish connection**
- **Connection successfully established** with information on the data rate

Current transmission rate:

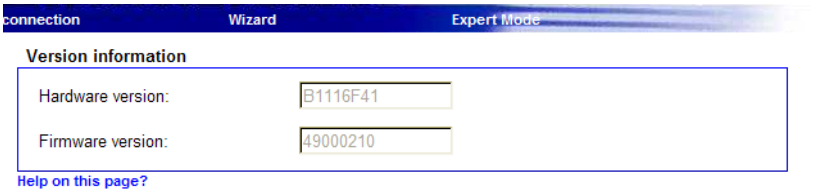
This text message box informs about the current transmission rate from the local WLAN adapter to the remote device.

Note
WLANs do not guarantee a specific data rate, as it depends on the intensity of the destination field. The de facto data rate is conditioned by the weakest link within the WLAN.

Link quality:

The value indicates the quality of the current WLAN connection. A value of **100%** stands for best link quality to the next Access Point or remote device. A value less than **15%** indicates very poor quality at a critical limit.

Version information



The hardware and firmware version numbers are for information only and cannot be altered. Keep a record of these numbers in case technical assistance is required.

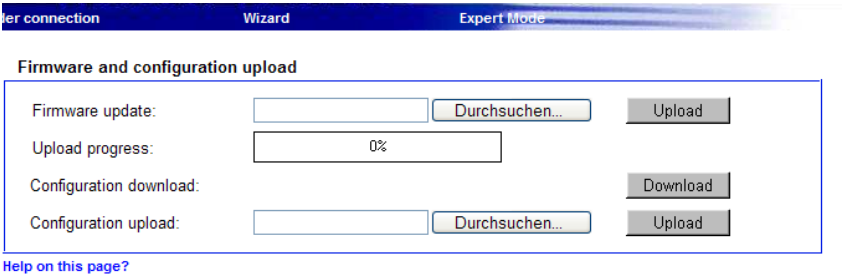
Hardware version:

The hardware version number of the VideoJet 10 is displayed.

Firmware version:

The firmware version number of the VideoJet 10 is displayed.

Firmware and configuration upload



Firmware update:

The VideoJet 10 is designed in such a way that its functions and parameters can be updated with firmware. To accomplish this, the current firmware is loaded on the unit via the selected network. It will be installed automatically.

Thus a VideoJet 10 unit can be serviced and updated remotely without requiring a technician to make changes on-site.

The current firmware can be obtained from VCS Customer Service or downloaded from the Internet at our Web site (www.vcs.com).

Warning!
Before starting the firmware upload, be sure that you have selected the correct file! Uploading the wrong files can result in the unit no longer being addressable, requiring it to be replaced.

Do not interrupt the firmware installation for any reason! Interruption will damage the flash EPROMs. This can also result in the unit no longer being addressable, requiring it to be replaced.

– First, save the update file to the hard disk.

– Enter the full path for the update file in the field or click **Durchsuchen...** to locate and select the file.

– Click **Upload** to begin transmission to the unit. Transmission progress can be monitored from the progress bar.

The new firmware will be decompressed and used to reprogram the flash EPROM. The time necessary is indicated by the message **going to reset Reconnecting in ... seconds**.

After the upload is completed successfully, the unit will restart automatically.

If the LED Power is red, the upload has failed and must be done again. This requires that you work from a special page:

– Enter the IP address of the unit in the browser and append `/main.htm` (for example `192.168.0.12/main.htm`).

– Repeat the upload.

Configuration download:

The VideoJet 10 configuration data can be saved on a computer and the saved data loaded on a unit from the computer.

– Click **Download**. A dialog will appear.

– Follow the instructions to save the current settings.

Configuration upload:

– Enter the full path of the file to upload or click **Durchsuchen...** to select the desired file.

– Make sure that the file to be loaded originates from the same type of device as the unit you want to reconfigure.

– Click **Upload** to begin transmitting the file to the unit. Transmission progress can be monitored from the progress bar.

After the upload is completed, the new configuration will be activated. The time necessary is indicated by the message **going to reset Reconnecting in ... seconds**.

After the upload is completed successfully, the unit will restart automatically.

Function test

The VideoJet 10 offers a number of configuration options. Therefore you should check that it works properly after installation and configuration.

This is the only way to ensure that the VideoJet 10 will function as intended in an alarm situation.

Check for the following functions (among other things):

- Can the VideoJet 10 be dialed remotely?
- Does the VideoJet 10 transmit all the data required?
- Does the VideoJet 10 respond to alarm events as required?
- Is it possible to control peripheral devices if necessary?

8 Sender Operation

Operation with Microsoft Internet Explorer

A computer with Microsoft Internet Explorer (version 6.0 or later) can be used to receive live images from the VideoJet 10, control cameras or other peripherals and replay sequences stored on the local storage medium (optional).

Note

Make sure the graphic card is set to 16 or 32 bit color depth and the Microsoft Virtual Machine is installed and active on your computer. If necessary, the required software and controls can be installed from the CD provided (see the list of components supplied, page 11).

Instructions for using the Web browser will be found in its online help.

System requirements

- Microsoft Internet Explorer (version 6.0 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (intranet or Internet)
- Optional for recording: CompactFlash card type I or II or MicroDrive

Note

Read the indications given in the document **System Requirements** on the CD provided.

MPEG-ActiveX installation

Note

In order to display the live video images, an appropriate MPEG-ActiveX must be installed on the computer. If necessary, the required software and controls can be installed from the CD provided (see the list of components supplied, page 11).

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the root directory of the CD in Windows Explorer and double click **MPEGAx.exe**.

– Follow the instructions on the screen.

Establishing the connection

The VideoJet 10 must be provided with a valid IP address to operate on your network.

The following default address has been pre-set at the factory: **192.168.0.1**

– Start the Web browser.

– Enter the IP address of the VideoJet 10 as the URL. The connection will be established, and after a short time the Livepage with the video image will appear.

Note
Your screen display may differ slightly from the illustration, depending on whether you are working with or without a storage medium inserted into the CompactFlash slot.

The Livepage

After the connection is established, the Livepage will be displayed first. It shows the live video image in the middle of the browser window. Depending upon configuration, various text overlays may be visible on the image (see page 39).

Other information may also be shown next to the video image on the Livepage. The display depends on the settings on the configuration page **Livepage configuration** (see page 78).

Note
If the connection is not established, the maximum number of possible connections may already have been reached. The maximum number of connections depends on the unit and network configuration.

Protected VideoJet 10

If the VideoJet 10 is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear first.

Note
A VideoJet 10 provides various authorisation levels to limit the scope of a user's access (see page 36 for the sender and page 86 for the receiver).

– Enter the user name and the associated password in the appropriate fields.

– Click **OK**. If the password is correct the respective page is displayed.

Image quality

The VideoJet 10 displays either a live video sequence in MPEG-4 format or individual live video frames in JPEG format.

– Click on the **MPEG-4** link in the navigation bar at the top of the browser display to display or decode the video sequences in the corresponding image format.

or

– Click on the **M-JPEG** link in the navigation bar at the top of the browser display to display or decode the individual frames in the corresponding image format.

– Click one of the links (**Small** or **Large**) above the live video image to view the image in the respective resolution.

Alarm input

In the event of an alarm, a red alarm symbol for the triggering alarm input is displayed next to the video image. The display of alarms and other details depends on the configuration of the unit (see page 58).

Relay output

Depending upon configuration, a device such as a floodlight or a door opener can be activated by the relay of the VideoJet 10 unit. The display of the relay and other details depends on the configuration of the unit (see page 64).

– Click the relay symbol next to the video image to activate the relay output. The symbol will turn red when the relay is activated.

Event log

The **Event log** field is where events such as switching a relay or alarm status messages are listed. These messages can be saved automatically in a log file (see page 80).

System log

The **System log** field contains information about the operating status of the VideoJet 10 and the connection. These messages can be saved automatically in a log file (see page 80).

Audio function

Depending upon configuration (see page 45) audio data can be send and received by the VideoJet 10. All users that are connected via Web browser receive the audio data sent by the VideoJet 10.

Only the user who has set up the first browser connection can send audio data to the unit.

– Klick on the Livepage anywhere outside the video picture to take the focus off the ActiveX.

– Keep the key **F12** pressed to send audio data to the VideoJet 10. In the browser status bar the message **Send Audio ON** is shown.

– Release the key **F12** if you want to stop sending audio data to the VideoJet 10. In the browser status bar the message **Send Audio OFF** is shown.

Note

When the browser connection over which audio data can be sent to the unit is cut off this function is taken over by the connection that is set up next.

Control functions

Control options for peripheral devices (such as a pan and tilt head or a dome camera) depend on the type of device installed and the configuration of the VideoJet 10.

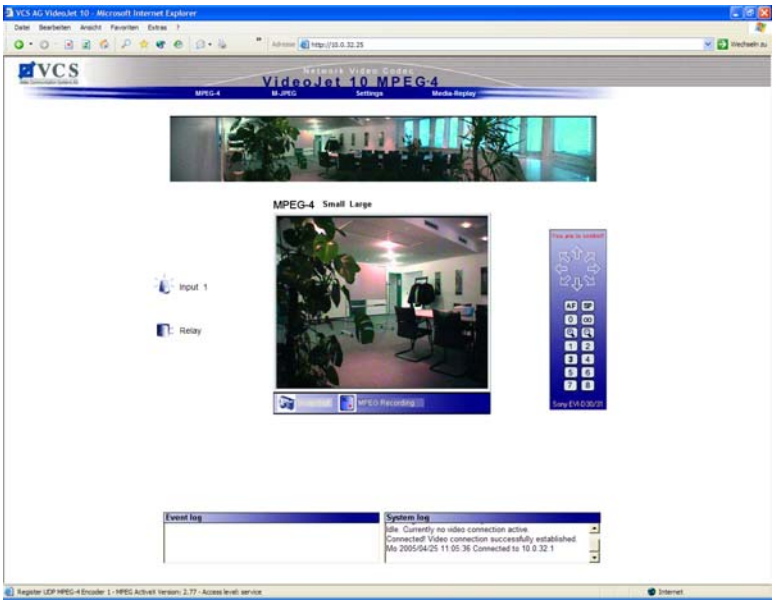
If a controllable device is connected to the VideoJet 10 and configured, the controls for the peripheral are displayed next to the video image, here e.g. for a Sony EVI-D30/31.

– To control a peripheral device click the associated operating elements.

– Move the pointer over the video image. Further options for peripheral device control will be displayed using the pointer.

Panorama view

If you are working with a Sony EVI-D100 or EVI-D30/31 camera, you can also display a panoramic image. The panoramic image is shown in the upper part of the Livepage. It consists of five single images that can be updated any time.



– Right-click on the panoramic image to open the context menu.

– Select **Start scan** to update the individual images. **Stop scan** cancels the update.

Note
The panorama image is displayed only if **Show panorama view** is selected on the configuration page **Livepage configuration** (see page 78).

Saving snapshots

Individual images from the current video sequence on the Livepage can be saved on the computer hard drive in JPEG format.

– Click the **Snapshot** icon. The image will be saved. The storage location depends on the configuration of the VideoJet 10 (see page 81).

Image resolution

Snapshots can be called up and displayed at different resolutions by entering URL parameters in the address field of the Web browser:

– Type the IP address of the VideoJet 10, followed by `/snap.jpg` into the Internet address field as URL (e.g. `http://192.168.0.12/snap.jpg`).

– Press the Return key or Enter key. A single frame image will be displayed in a new window.

– Right-click the image and select **Save Picture As...** from the context menu.

– Save the snapshot in the desired format, giving it a new name.

Without the extra parameter, the default image size is 352 × 288 (CIF) pixels. Enter a specific parameter to get another resolution:

- `snap.jpg?JpegSize=S` for 176 × 144 pixels (QCIF)
- `snap.jpg?JpegSize=M` for 352 × 288 pixels (CIF)
- `snap.jpg?JpegSize=XL` for 704 × 576 pixels (4CIF)

Recording video sequences

Segments from the current video sequence on the Livepage can be saved on the computer hard drive.

– Click the **MPEG-sequence** icon. Saving begins immediately. The storage location depends on the configuration of the VideoJet 10 (see page 81). A recording in progress is indicated by the blinking of the red dot on the icon.

– Click the **MPEG-sequence** icon again. Saving will be terminated.

Image resolution

The sequences will be recorded at the resolution specified in the encoder settings (see page 41). Select the stream for Livepage video display on the configuration page **Livepage configuration** (see page 79).

MPEG-Viewer installation

You can display recorded video sequences with the VCS MPEG-Viewer which you find on the accompanying software CD (see page 11).

Note
In order to be able to play back recorded video images with the MPEG-Viewer, an appropriate MPEG-ActiveX must be installed on the computer. For further information see page 107.

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the root directory of the CD in Windows Explorer.

– Open the directory entitled **MPEG-Viewer** and copy the **MPEGViewer.exe** file to your hard drive.

– You can start the MPEG-Viewer by double-clicking the file **MPEGViewer.exe**.

Recordings in progress

Note
Recording and playback are only available if you have inserted a storage medium into the CompactFlash slot of the VideoJet 10.

During automatic recording to the local storage medium of the VideoJet 10 by one of the background programs, the hard disk icon below the video image on the **MPEG-4** Livepage changes.

It is animated to indicate that a recording is in progress. If no recording is taking place the icon is static.

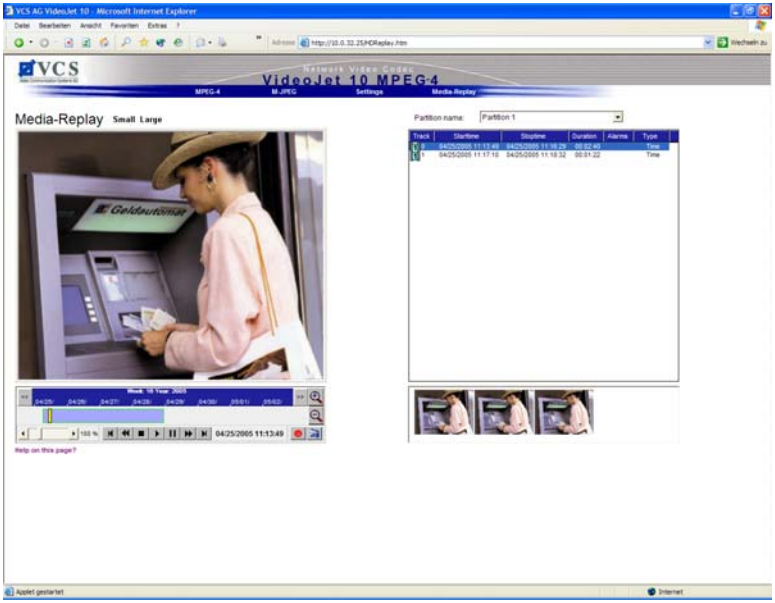
Media-Replay page

You can use the CompactFlash interface of the VideoJet 10 to store recordings locally on a CompactFlash-card or a MicroDrive.

Note
The link for the page **Media-Replay** is only visible if you have have inserted a storage medium into the CompactFlash slot of the VideoJet 10.

You can access the page **Media-Replay** for replay of recorded video sequences from both, the Livepage and the Expert Mode.

– Click the link **Media-Replay** in the navigation bar at the top of the window. The playback page will be displayed.



Recording selection

First select the partition of which you wish to view the recordings on the right.

All saved sequences on the partition will be listed. A sequential number, the start and end times of the recording, the recording length, the number of alarms and the recording type will be shown for each sequence.

– Select the partition of which you want to view the recordings out of the dropdown list **Partition name**.

– Click a list entry. Playback of the selected sequence will begin immediately in the video window.

Playback control

A time bar is shown below the video image to indicate the progress of the sequence. When you switch to the **Media-Replay** page, the blue bar initially shows the current day, week and year and a time scale with two hour intervals.

If a particular sequence is selected for playback by clicking, the time range to which it belongs is shown in the bar, with the selected sequence indicated in blue with a green border. The yellow slider indicates the position of the image currently shown in the sequence.

The time bar offers various navigation options within and between the sequences.

– Change the time section displayed by clicking the arrow buttons or by dragging the blue area to the left or right using the mouse.

– Change the time intervals displayed by clicking the zoom buttons (magnifying glass icons). Intervals of three days, one day, two hours, five minutes or one minute can be chosen.

– Select another sequence for playback by clicking the corresponding blue marking. The sequence will be highlighted with a green border to indicate that it is the active sequence.

If necessary, drag the yellow bar to the time position at which playback is to start. Detailed information on the date and time is shown below the bar.

The buttons below the video image can be used to control playback. The buttons have the following functions:

Skip to the beginning of the active video sequence,
Skip to the previous alarm

Fast rewind,
rewind I-frame by I-frame (only in Pause mode)

Stop

Play

Pause

Fast forward,
step forward I-frame by I-frame (only in Pause mode)

Skip to the end of the active video sequence,
skip to the next alarm

The speed can be controlled using the slider. 100% indicates normal speed, lower values and higher values reduce or increase the playback speed.

Red bars on the blue sequence fields indicate triggered alarm times. You can skip quickly to the alarms using the control buttons or the yellow slider.

Backup

Note
You can only make a backup of a recording if you have inserted a storage medium into the CompactFlash slot of the VideoJet 10.

You can back up saved video sequences or individual images saved on the storage medium of the VideoJet 10 to your computer's hard drive.

First select the sequence to save as described above. The following buttons are available for backup:

Back up a sequence to your computer's hard drive

Back up a snapshot to your computer's hard drive

– Start playback of the sequence you want to back up as a whole or in parts.

– Click the icon for backing up a sequence. Saving begins immediately and is indicated by the slow flashing of the icon on the button.

– Click the icon for sequence backup again to stop saving.

This procedure can be repeated within a sequence to back up several segments of a longer sequence.

– Click the button for backing up a snapshot to save only snapshots from the sequence being played to your hard drive.

The snapshots will be shown immediately in the area to the right of the button.

The location for saving sequences and snapshots can be specified in the VideoJet 10 configuration (see page 81).

Installing MPEG-Viewer

You can play back saved video sequences using the MPEG-Viewer from VCS, which can be found on the software CD supplied (see the list of **Components supplied** on page 11).

Note
In order to be able to play back recorded video images with the MPEG-Viewer, an appropriate MPEG-ActiveX must be installed on the computer. For further information see page 107.

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the CD in the Windows Explorer.

– Open the **MPEG-Viewer** directory and copy the file **MPEGViewer.exe** to your computer's hard drive.

– If necessary, you can also start the MPEG-Viewer by double-clicking the file **MPEGViewer.exe**.

Receiver Operation 9

Operation with Microsoft Internet Explorer

A computer with Microsoft Internet Explorer (version 6.0 or later) can be used to set up a connection to a VCS sender and to display the live images received on a monitor.

Note

Make sure the graphic card is set to 16 or 32 bit color depth and the Microsoft Virtual Machine is installed and active on your computer. If necessary, the required software and controls can be installed from the CD provided (see the list of components supplied, page 11).

Instructions for using the Web browser will be found in its online help.

System requirements

- Microsoft Internet Explorer (version 6.0 or higher)
- Monitor resolution 1024 × 768 pixels
- Network access (intranet or Internet)

Note

Read the indications given in the document **System Requirements** on the CD provided.

MPEG-ActiveX installation

Note

In order to display the live video images, an appropriate MPEG-ActiveX must be installed on the computer. If necessary, the required software and controls can be installed from the CD provided (see the list of components supplied, page 11).

– Insert the CD into the CD-ROM drive of the computer. If the CD does not start automatically, open the root directory of the CD in Windows Explorer and double click **MPEGAx.exe**.

– Follow the instructions on the screen.

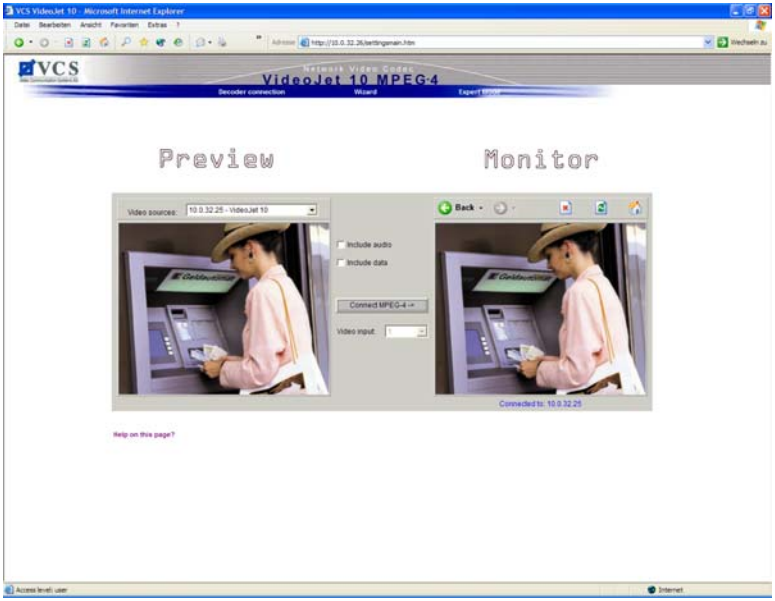
Establishing the connection

The VideoJet 10 must be provided with a valid IP address to operate on your network.

The following default address has been pre-set at the factory: **192.168.0.2**

– Start the Web browser.

– Enter the IP address of the VideoJet 10 as the URL. The connection will be established, and after a short time the **Decoder connection** page will appear.



The Decoder connection page

After the connection has been established, the **Decoder connection** page will be displayed and the unit automatically scans the network for available senders.

Protected VideoJet 10

If the VideoJet 10 is password-protected against unauthorized access, a corresponding message and a prompt to enter the password will appear first.

Note
A VideoJet 10 provides various authorisation levels to limit the scope of a user's access (see page 36 for the sender and page 86 for the receiver).

– Enter the user name and the associated password in the appropriate fields.

– Click **OK**. If the password is correct the respective page is displayed.

Preview

In this area you can select one of the video sources found in the network. A snapshot of the video image from the selected video source is displayed. In addition to the unit name the snapshot provides other means of identifying the sender.

Monitor

As soon as a connection with a sender is established, you will see a snapshot of the video image from the connected sender here.

Connection between the receiver and sender

During startup the VideoJet 10 automatically scans the network for available senders. As soon as a sender is found on the network, the VideoJet 10 automatically displays a snapshot of this sender. All the senders found are listed in a dropdown list labeled **Video sources**.

Establishing a connection

– Choose a sender from the list of **Video sources**. A JPEG snapshot from the video source selected will appear on the start page under **Preview**.

Note
If the connection is not established, the maximum number of possible connections may already have been reached. The maximum number of connections depends on the unit and network configuration.

– Mark the checkbox **Include audio** if you want to transmit audio, too. Make sure for correct audio transmission configuration for both, sender and receiver.

– Mark the checkbox **Include data** if you want to transmit transparent data, too. Make sure for correct data transmission configuration for both, sender and receiver.

☞ **Note**
The checkboxes must be marked prior to connection set-up in order to include audio and data transmission.

– Click the corresponding checkbox again to deactivate audio or data transmission respectively.

– Click the button **Connect MPEG-4** to connect the video images to the connected monitor. Under **Monitor** a snapshot from the connected source is displayed.

– If the sender is a multi-channel unit, e.g. a VideoJet 8000 from VCS, you can choose the **Video input** to be displayed.

Terminating a connection

– Click the close button (**X**) in the 'Monitor'-window title bar to stop the video display on the monitor.

Hardware Connections 10

Hardware connections between VCS units

A VideoJet 10 sender, connected to a camera, and a VideoJet 10 receiver, connected to a monitor, can be linked together or to other VCS units easily via an Ethernet network or a wireless LAN. This makes it possible to establish connections over large distances with little effort for installation or cabling.

Installation

The VCS units are designed to connect with one another automatically when correspondingly configured. The only requirement is that they are both part of a closed network. Proceed as follows to install the units:

– Connect the units to the closed network using Ethernet cables or wireless LAN cards.

– Connect them to the mains supply.

Note
Make sure the units are correctly configured for the network environment and that the correct IP address of the remote unit that is to be connected in case of alarm is set on the configuration page **Alarm connections** (see page 60 for the sender and page 93 for the receiver).

Establishing the connection

There are three options for establishing a connection between a VCS sender and a VCS receiver in a closed network:

- when an alarm signal is given,
- using a terminal program or
- using a Web browser

Connection when an alarm signal is given

Sender and receiver can be configured to connect automatically with each other when an alarm is triggered (see page 59 for sender and page 93for receiver). After a short time, the live video image from the sender will be shown on the connected monitor.

This option can also be used to connect two VCS units via an on-off switch at the receiver. In this case, a computer is not needed to establish the connection (see page 92).

Connection using a terminal program

This operating mode has various prerequisites. Refer to the section **Setup using terminal software** (see page 24).

– Start the terminal program. Enter the command `i` to call up the **IP** menu.

– Enter the command `r` in the **IP** menu to change the remote IP address, then enter the IP address of the device to connect to.

– Enter the command `a` in the **IP** menu to activate automatic connection set up.

Connection using a Web browser

This operating mode has various prerequisites. Refer to the section **Establishing the connection** (see page 27).

– Use the Web browser to connect to the VideoJet 10 receiver. Its home page will be displayed.

– Establish the desired connection to the monitor (see page 123).

Closing the connection

The connection may be closed using a terminal program or Web browser.

Closing the connection using a terminal program

– Start the terminal program (see page 24); enter the command `i` to call up the **IP** menu.

– Enter the command `a` in the **IP** menu to deactivate automatic connection.

Closing the connection using a Web browser

– Use the Web browser to connect to the VideoJet 10 receiver. Its home page will be displayed.

– Click the close button (**X**) in the ’Monitor’-window title bar to stop the video display on the monitor.

Operation with Decoder Software 11

Operation with VIDOS

VideoJet 10 video servers and VIDOS software can be combined to form a high-performance system solution.

VIDOS is software for the operation, control and administration of CCTV installations (e.g. surveillance systems) at remote locations. It runs under Microsoft Windows operating systems. Its main function is decoding video, audio and control data from a remote sender.

There are many options available for operation and configuration when using VideoJet 10 devices in combination with VIDOS. Refer to the software documentation for more details.

Maintenance and Upgrades 12

Testing the network connection

The `ping` command can be used to check the connection between two IP addresses. This allows you to test whether a unit is active in the network.

– Open the DOS command prompt.

– Type `ping` followed by the IP address of the unit.

If the unit is found, the response appears as `Reply from ...`, followed by the number of bytes sent and the transmission time in milliseconds. Any other response indicates that the unit cannot be accessed via the network. Possible causes:

- The unit is not properly connected to the network. Check the cable connections in this case.
- The unit is not correctly integrated into the network. Check the IP address, subnet mask and, if necessary, the gateway IP.

Device reset

The reset button can be used to reset the unit to its original factory settings. Any changes in the settings will be overwritten by the factory defaults. This may be necessary, for example, if the unit has invalid settings that prevent it from functioning as desired.

Warning!
All configured settings will be discarded during a reset. If necessary, back up the current settings using the **Download** button on the configuration page entitled **Firmware and configuration upload** (see page 81 for sender and page 104 for receiver).

Note
After a reset, the unit can only be addressed via the factory default IP address. The IP address can be changed as described in the chapter entitled **Installation** (see page 25).

– If necessary, back up the current settings using the **Download** button on the configuration page entitled **Firmware and configuration upload** (see page 81 for sender and page 104 for receiver).
– Use a pointed object to press the reset button which is found below the CompactFlash interface (see page 16) until the LED **I** is lighting red. All settings will revert to their defaults.
– Change the IP address of the unit as necessary.
– Configure the unit to meet your requirements.

Repairs

Warning!
Never open the casing of the VideoJet 10 device. The unit does not contain parts that you can repair or replace.

Ensure that maintenance or repair work is performed only by personnel qualified in electro-technics and network technology, or contact your VCS dealer service center.

Transfer and disposal

The VideoJet 10 should only be passed on together with this manual.

The unit and its power supply contain environmentally hazardous materials that must be disposed of according to law.

Defective or superfluous units and parts should be disposed of professionally or taken to your local collection point for hazardous materials.

Appendix 13

Troubleshooting

If you cannot correct a malfunction, please contact your supplier, system integrator or VCS customer service (Support.STVC@de.bosch.com).

The version numbers of the internal processors can be viewed on a special page. Please note this information before contacting Customer Service.

– In the address field of the browser, append `/version.htm` to the IP address of the unit (e.g. `192.168.0.12/version.htm`) and press Enter.

– Write down the information or print out the page.

The following table is intended to help you identify the causes of malfunctions and correct them where possible.

Problem	Possible Causes	Solution
No connection between the unit and terminal program.	Faulty cable connections.	Check all cables, plugs, contacts and connections.
	The computer's serial interface is not connected.	Check the other serial interfaces.
	Interface parameters do not match.	Select a different COM port if necessary and make sure that the computer's interface parameters match those of the unit. You can also try the following standard parameters: 19,200 baud, 8 data bits, no parity, 1 stop bit. After that, switch off the power to the unit and switch it on again after a couple of seconds.
No image transmission from the target location.	Defective camera.	Connect a local monitor and check the camera function.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.

Problem	Possible Causes	Solution
No connection established, no image transmission.	The unit's configuration.	Check all settings.
	Faulty installation.	Check all cables, plugs, contacts and connections.
	Wrong IP address.	Check the IP addresses (terminal program).
	Faulty data transmission within the LAN.	Check data transmission with the `ping` command.
	The maximum number of connections possible to other devices has already been reached.	Wait until there is a free connection and contact the sender again.
No image transmission to analog monitor	Transmission data rate to high for receiver	Reduce transmission data rate at the sender.
No audio transmission from the target location.	Hardware failure.	Check that all audio devices connected function correctly.
	Faulty cable connections.	Check all cables, plugs, contacts and connections.
	Faulty configuration.	Check the audio settings (volume and coding mode).
	Audio/voice communication is busy with another receiver.	Wait until a connection is available and contact the sender again.
The unit does not report an alarm.	No alarm source is chosen.	Select alarm input on the **Alarm sources** configuration page.
	No alarm action selected.	Define the desired alarm actions on the **Alarm connections** configuration page. If necessary, change the IP address.
Control of cameras or other devices is not possible.	The cable connection between the serial interface and the connected device is incorrect.	Check all cable connections and ensure all plugs are properly plugged in.
	The interface parameters conflict with those of the other device connected.	Make sure the settings of all devices involved are compatible.
The unit is no longer operational after a firmware upload.	Incorrect update file.	Connect the unit via Web browser typing its IP address followed by `/main.htm` and repeat the upload.

LEDs

The VideoJet 10 video server is equipped with several LEDs that show the operating status and can give indications of possible malfunctions:

LED Power

Not lit:	Device is switched off.
Lit green:	Device is switched on.
Blinking green:	The device is accessed.
Lit red (briefly):	Device is starting up.
Lit red (continuously):	Device is out of order; upload failed.

LED I

Lit red:	Alarm is triggered.
Not lit:	Alarm input is inactive.

LED O

Lit green:	Relay is switched.
Not lit:	Relay is inactive (idle state).

LED L

Lit green:	Connected to the network.
Not lit:	Not connected to the network.

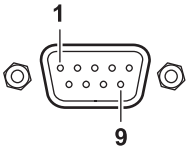
LED T

Blinking yellow:	Data transfer via the network.
Not lit:	No data transfer.

COM1: RS232/485 interface

Options for using the serial interface **COM1: RS232/485** include transparent data transfer, control of connected devices or operation of the unit with a terminal program. Depending on the setting, the interface works with the RS232 or RS422/485 standard. The standard used depends on the current configuration (see page 66).

The pin assignments depend on the standard used.



Pin	RS232 Standard	RS422/485 Standard
1	–	–
2	RxD (receive data)	RxD+ (receive data plus)
3	TxD (transmit data)	TxD- (transmit data minus)
4	–	–
5	GND (ground)	GND (ground)
6	–	–
7	RTS (ready to send)	TxD+ (transmit data plus)
8	CTS (clear to send)	RxD- (receive data minus)
9	–	–

☞ **Note**

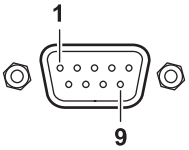
For RS422/RS485 pin assignment is also possible for 2-wire connection.

– Connect the TxD+ with the RxD+. TxD+ then is equivalent to DATA+.

– Connect the TxD- with the RxD-. TxD- then is equivalent to DATA-.

COM2: RS232 interface

Options for using the serial interface **COM2: RS232** include transparent data transfer or operation of the unit with a terminal program. The interface works with the RS232 standard.



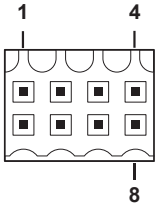
Pin	RS232 Standard
1	DCD (data carrier detect)
2	RxD (receive data)
3	TxD (transmit data)
4	DTR (data terminal ready)
5	GND (ground)
6	DSR (data set ready)
7	RTS (ready to send)
8	CTS (clear to send)
9	RI (ring indication)

Audio stereo jack

Contact	Assignment
1	GND
2	Line-In (Ring)
3	Line-Out (Tip)

Connection jacks

The connection jacks allow the connection of an alarm switch, relay and an analog sensor.



Terminal allocation

Terminal	Function
1	Alarm In
2	Alarm Out
3	Analog In
4	3.3 V, 50 mA
5	GND
6	Alarm Out
7	GND
8	GND

The alarm input (Alarm In) is to be connected with the electrical ground (GND) using a trigger contact.

Glossary

A few brief explanations of the most important terms and abbreviations used in the field of communications technology can be found below.

10/100 Base-T	IEEE 802.3 specification for 10 or 100 MBit/s Ethernet
ARP	Address Resolution Protocol: a protocol for mapping MAC and IP addresses
Baud	Measure for the speed of the data transfer rate
Bit/s	Bits per second, the actual data rate
CIF	Common Intermediate Format, video format with 352 × 288 pixels
DNS	Domain Name Service
FTP	File Transfer Protocol
Full duplex	Simultaneous data transmission in both directions (sending and receiving)
G.711	Standard ITU-T audio coding algorithms
HTTP	Hypertext Transfer Protocol
ICMP	Internet Control Message Protocol
ID	Identification: a machine-readable character sequence
IEEE	Institute of Electrical and Electronics Engineers
IGMP	Internet Group Management Protocol
Internet Protocol	The main protocol used on the Internet. Together with the Transfer Control Protocol (TCP), it constitutes "TCP/IP"
IP	*See* "Internet Protocol"
IP address	A 4-byte number uniquely defining each device on the Internet. It is usually written in dotted decimal notation with periods separating the bytes, for example "209.130.2.193".
ISDN	Integrated Services Digital Network
JPEG	An encoding process for still images (Joint Photographic Experts Group)
kBit/s	Kilobits per second, the actual data rate
LAN	*See* Local area network
Local area network	A communications network serving users within a limited geographical area, such as a building or a university campus. It is controlled by a network operating system and uses a transfer protocol.
M-JPEG	Motion-JPEG; the video sequence is generated stringing together JPEG-images
MAC	Media Access Control

MPEG-4	Video compression standard designed for transmission of audiovisual data at very low transfer rates (for example via the Internet).
MTU	Maximum Transmission Unit resp. Maximum Transfer Unit
Netmask	A mask that explains which part of an IP address is the network address and which part comprises the host address. It is usually written in dotted decimal notation, for example "255.255.255.192".
Parameter	Values used for configuration
QCIF	Quarter CIF, a video format with 176 × 144 pixels
RS232/RS422/RS485	Data transfer standards
RTP	Realtime Transport Protocol; transport protocol for video and audio in real time
SNMP	Simple Network Management Protocol
SSID	Service Set Identifier or Network Name; identifier for radio networks
Subnet mask	*See* netmask
TCP	Transfer Control Protocol
Telnet	Connection protocol for a user to connect to a remote computer (host) in the Internet
Time Server Protocol	A protocol to synchronize computers in the Internet
TTL	Time To Live
UDP	User Datagram Protocol
URL	Uniform Resource Locator
UTP	Unshielded Twisted Pair
WAN	*See* wide area network
Wide area network	A long distance link used to extend or connect remotely located local area networks
Wireless LAN, WLAN	Local area network using radio connections

VideoJet 10 Specifications

Operating voltage	12 ... 24 V DC, power supply included
Power consumption	approx. 10 W
Network interface	Ethernet 10/100 Base-T, auto-sensing, half/full-duplex, RJ45 RF-Interface 802.11b via CompactFlash-card interface
Video data rate	9.6 kBit/s ... 4 MBit/s
Audio data rate	80 kBit/s per direction
Audio sampling rate	8 kHz
Overall delay	100 ms
Video standards	PAL, NTSC
Image resolution (PAL/NTSC)	704 × 576/480 pixels (D1/4CIF) 704 × 288/240 pixels (2CIF)) 352 × 288/240 pixels (CIF) 176 × 144/120 pixels (QCIF) 352 × 448 pixels; individually adjustable (Custom)
Video coding protocols	MPEG-4; M-JPEG
Audio coding protocol	G.711; 300 Hz ... 3.4 kHz
Network protocols	RTP, Telnet, UDP, TCP, IP, HTTP, IGMP V2, ICMP, ARP, SNMP
Video input	1 × BNC jack 0.7 ... 1.2 V_{pp}, 75 Ohm switchable, PAL/NTSC
Video output	1 × BNC jack 1.0 V_{pp}, 75 Ohm, PAL/NTSC
Audio input	1 × mono line, stereo jack 3.5 mm, 1.0 V_{p-p}, 50 kOhm
Audio output	1 × mono line, stereo jack 3.5 mm, 1.0 V_{p-p}, 60 mW, min. 8 Ohm
Data interfaces	1 × RS232/RS422/RS485, bidirectional, 9-pin Sub-D 1 × RS232, bidirectional, 9-pin Sub-D
Alarm input	1 × push-in terminal (non-isolated closure contact type), max. activation resistance 10 Ohm

Relay output	1 × push-in terminal, 30 V_{pp}, 1 A
Storage media	CompactFlash-cards type I and II; MicroDrive
Indicators	5 LEDs (Power, Alarm In, Alarm Out, Link, Traffic)
Operating conditions	Temperature 0 ... +50 °C, relative humidity 20 ... 80 %, non-precipitating height 0 ... 3,000 m
Storing conditions	Temperature -20 ... +60 °C relative humidity 20 ... 95 % non-precipitating max. height 10,000 m
Approvals & certifications	CE; IEC 60950; UL 1950; AS/NZS 3548; EN 55103-1, -2; EN 55130-4; EN 55022; EN 55024; EN 61000-3-2; EN 61000-3-3; FCC 47 CFR Ch. 1, Part 15
Dimensions (w × h × d)	143 × 33 × 135 mm
Weight (without power supply)	approx. 400 g

Index

14

A

Activating a partition for recording 52
Actuator 21
Alarm 92
Alarm input 21
Alarm inputs 110
Alarm IP address 60
Alarm recording 54
Alarm recording duration 56
Alarm tracks 54
Alarmtracks 56
Audio connection 22
Audio signals 45, 90
Auto-connect 60, 93

B

Backup 118
Banner 78, 79
Brightness 41
Browser window 109

C

Camera ID 67, 95
Camera name 39
Cameras 20
Changes 32, 50
Color depth 27, 107, 121
Color saturation 41
Communication speed 96
Configuration 82, 105
Contrast 41
Contrast alarm 58
Control 66
Conventions 7
Create partition 49

D

Data interface 20
Data rate 43
Data terminal 24
Date format 38, 87
Daylight savings time 38, 88
Defaults 44
Deleting partitions 51
Deleting recordings 58
Display stamping 39
DNS server 70, 99
Dome camera 20
Dual Streaming 42
Dual streaming 13

E

Echo 24
Editing a partition 50
Electromagnetic compatibility 8
Encoding interval 44
EPROM 81, 104
Event messages 110

F
False alarms 62, 63
Firewall 70, 99
Format 58
FTP server 46, 47
Function test 83, 106

G
Gateway 70, 99

I
Identification 8, 35, 85
IGMP 75
Image resolution 113, 114
Installation 10
Installation location 19
Installation requirements 19
Intallation requirements 19
Interlaced video signal 44
Internal clock 38, 88
IP address 25, 69, 98

J
JPEG format 46
JPEG posting 46
JPEG posting interval 47

L
Language 37, 87
Linear mode 56, 57
Live video images 27, 109
Live video sequence 109
Livepage 78
Loudspeaker 22
Low Voltage Directive 8

M
Main functions 15
Mains switch 23
Maintenance 10
Media-Replay 116
Monitor 20
Monitor name 89
Monitor resolution 107, 121
Motion alarm 58
MPEG ActiveX 114, 119
MPEG-ActiveX 27, 107, 121
MPEG-sequence 114
MPEG-Viewer 14, 119
MTU 70, 99
Multicast 75
Multicast connection 70, 75, 99
Multicast function 13
Multi-unicast 75

N
Name 35, 85
Navigation 31
Network 21, 69, 98
Network connection 23
Normally open contact 21
Number of connections 29, 109, 123

O
Operation 9

P
Parameters 26

Partition name 55
Partition number 55
Partition properties 55
Partitioning 48
Password 29, 60, 93, 109, 123
Password protection 36, 86
Peripheral device control 111
Picture quality 76
Playback button 117
Playback control 117
Power supply 9
Profile name 43
Profiles 42
Protocol 67, 96

R
Receiver 13
Recording scheduler 52
Recording status 57, 115
Recording tracks 57
Regulations 7
Relay 64, 93, 110
Relay output 21, 64, 93, 110
Remote control 14
Repair 10
Restart 26
Ring mode 56, 57
Router 76

S
Safety 9
Save picture 113
Setup 11
SNMP 59, 91
Specifications 141
Subnet mask 98
Symbols 7
Synchronous 37, 87
System messages 110

T
TCP 70, 99
Test 83, 106
Time 38, 88
Time recording 53
Time server 38, 88
Time Server Protocol 38, 88
Time signal 38, 88
Time zone 38, 88
Total size 57
Total time 57
Transmission disturbances 89
Transmission parameters 24
Transmission rate 67, 68, 97
Trigger relay 66, 95
TTL 76
Type of recording 55

U
UDP 70, 99
Unicast 75
Unit name 35, 85
Update 81, 104
Upload file 81, 104
URL 28, 108, 122
User name 36, 86

V

Version 77, 103
Video loss alarm 58
Video output standard 89
Video quality 43
Video resolution 44
Video sensor 61
Video sequence 114

W

Watermarking 40
Wireless LAN 71, 100
Wizard 33
WLAN encryption 73, 101

VCS Video Communication Systems AG
Forchheimer Str. 4
90425 Nuremberg, Germany

Phone: +49 911 93456-0
Fax: +49 911 93456-66
E-mail: info@vcs.com
http://www.vcs.com

ID No.: 2915/0505/e/4